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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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THE JOURNAL OF LAND & PUBLIC UTILITY ECONOMICS

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Relocation of Manpower and Zoning†

By SIDNEY HENDERSON* *and* M. L. UPCHURCH**

ZONING for agriculture, forestry and recreation in Wisconsin will be ten years old in May of this year. It started during the depression years when the back-to-the-land movement stimulated isolated settlement throughout the forest-farm fringe of the Great Lakes States. While zoning could prevent future costs for schools, roads and other public services, it cannot be made retroactive. This meant that settlers who had established their residence in an area later restricted became legal non-conforming users who had the right to all the services of settlers in the unrestricted areas of the northern zoned counties. It soon became apparent that zoning would be a job half done if the non-conforming users were allowed to remain to perpetuate the existing high costs for public services. Most of the non-conforming users were trying to make a living on submarginal land. Many of these were on relief. The logical supplementary program to zoning was the resettlement or relocation of non-conforming users to get rid of the "high cost settlers" and place them on better land or give them better economic opportunities "somewhere else." However, those who advocated this program were challenged by the fact that there wasn't then much "somewhere else" for resettlement clients to go.[1]

At the present time, however, the war with its extraordinary demands for manpower has caused a search to be made for all possible labor for the defense plants and for agriculture so both can meet their production goals. Thus there is now a third reason for assisting non-conforming users and other northern Wisconsin settlers to shift to other occupations or into

† Professor George S. Wehrwein gave advice throughout the study on which this article is based and assisted in the preparation of this article. Others assisting in the study include V. Webster Johnson, James H. Marshall, Leonard A. Salter, Jr., L. G. Sorden and several graduate students at the University of Wisconsin.

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[1] Paul H. Johnstone, "Somewhere Else," *Land Policy Review*, Bureau of Agricultural Economics, U.S.D.A., November-December, 1939.

the agricultural economy where they can be most efficient. Today there is "somewhere else" to go. Public programs dealing with farmers and with land utilization should be readjusted to this new situation as speedily as possible. For this reason also data collected some time ago in a study of non-conforming users and administration of zoning are of even greater significance today.

This study of zoning was begun in 1938 by the Wisconsin Agricultural Experiment Station in cooperation with the Bureau of Agricultural Economics. It involved the collection and analysis of data on the use of non-conforming tracts in the zoned areas and the presentation of the experiences of town and county officials in using the zoning ordinances. Information on the occupations and residences of non-conforming users, the tax status of their land and the public costs they incurred was also obtained. For this purpose a detailed study was made of all non-conforming use tracts in Oneida and Langlade counties and in one town of Vilas county. In addition, data bearing on the applicability of zoning in recreation areas were assembled for selected areas. Information pertaining to changes in boundaries of the restricted districts and the administration of zoning ordinances in general was obtained for all the zoned counties of northern and central Wisconsin.[2]

Although the non-conforming uses may be legally "frozen" and the owners seem to have great interest in perpetuating these uses, the study indicated remarkable instability in status of such uses in the years between the time of enactment of the ordinances in 1933-34 and the time the study was made in 1938. At the time the ordinances were passed, 452 non-conforming users were officially listed for the restricted districts of the area surveyed. By 1938 the non-conforming uses on 94, or about 21%, of these tracts had been discontinued and could not legally be resumed. Of these 94 tracts, 90 had been occupied and 4 had been listed as non-conforming without occupancy at the time of zoning. The federal land purchase program effected the abandonment of 18 of these tracts by buying them out. Twelve others had been discontinued by county action, 4 by county trading of land and 8 by tax deeds taken prior to the discontinuance of occupancy. A very high proportion of the discontinuance in Langlade county was due to the federal purchase program. Some of the early submarginal land purchases of the original Resettlement Administration occurred in this county soon after it passed its zoning ordinance.

More significant in some ways than the discontinuance by public programs is the fact that 64, or approximately 14% of the original non-conforming uses, were discontinued without public action. About half of these had been completely abandoned as far as any agricultural use or residence was concerned. In the case of the other half, the non-conforming use had been replaced by a conforming use, i.e., the tracts were now being used for part-year residence, such as summer homes, seasonal resorts or hunting cabins.

In contrast to Langlade county, practically all the discontinuance of non-conforming uses in Oneida county was by private action. Approximately one-third of the "discontinued" tracts were merely changed to a conforming use by being used as summer homes and resorts which are in conformity with the ordinance.

[2] This article presents most of the non-conforming-user data obtained in this study. Many of the findings on recreational land were reported in "Zoning for Recreation," by George S. Wehrwein and Hugh A. Johnson in the *Journal of Land and Public Utility Economics*, February, 1942. Administration *per se* will be treated in a subsequent article.

This is due partly to the fact that Oneida county has only one type of restricted district, *Forest and Recreation*, and therefore much of the desirable recreational land was included in this district which prohibits year-long residence as well as agriculture. In Langlade and Vilas counties *Recreation* districts were added. In these, year-long residence but no agriculture is permitted.

The definition of *discontinuance* used here is necessarily arbitrary since neither the enabling act nor any of the county ordinances defines this term. In this study a non-conforming use in the forestry district was considered discontinued if the land or premises had not been used either for year-round occupancy or for any agricultural use for at least a year. There is great need for a workable definition of legal "discontinuance," but discussion of this point must be left for another article.

The Economic Status of the Remaining Non-conforming Users

Eliminating the 94 discontinued non-conforming uses, whether purchased, traded, voluntarily discontinued, or changed to a "conforming" status by being used for seasonal or recreational purposes, there remained within the restricted districts of Langlade and Oneida counties and the town of Washington in Vilas county, 358 tracts in some non-conforming use at the time this study was made. Of these, 305 tracts were occupied by a family and 53 were unoccupied but were used for agriculture or other non-conforming use by an absentee operator. On 14 of the 305 occupied tracts there were additional families living in separate houses on the same tract, making a total of 319 families.

It is a common assumption that non-conforming users are "farmers" and some of the public programs are geared to this assumption. However, Table I reveals the fact that only about one-third of the non-conforming-user families had incomes from strictly agricultural sources and of these 95 families more than one-third added to their farm income by doing "outside work." Another 4% of the non-conforming users combined farming with renting recreation cottages and 12% depended primarily on renting cottages for their livelihood. Other forms of income associated with land occupancy accounted for another 9% of the non-conforming users. Most of these were associated with recreation and included stores, taverns, fish hatcheries or filling stations, the renting of boats and the sale of bait. Fur farms, trapping and the sale of forest products contributed to the income of a few. Some of these sources of income were also enjoyed by farmers and resort owners. The sale of timber products was not as important as might be expected considering that this is a forest region. Of the 284 non-conforming users listed in Tables I and II, only 31 reported any income from this source, but 9 of these reported this as their only source of income. Since the land owned by non-conforming users is practically all cut over, it is not likely that the sale of timber products will become an important source of income within the next decade.

Of special significance is the 42% of the non-conforming users who reported no apparent income from land or property. Almost all of them had small gardens but none of the gardens provided any cash income. These families use their land primarily for residential purposes and their incomes are dependent upon outside work or relief.

The last two columns of Table I indicate the number of each of the five classes of non-conforming users that depended

TABLE I. SOURCES OF INCOME FOR NON-CONFORMING USERS IN LANGLADE AND ONEIDA COUNTIES AND PART OF VILAS COUNTY, 1938[a]

Source of income	Number of families	Percentage of total families	With outside work[b]	Without outside work
	Number	*Per cent*	*Number*	*Number*
Farm	95	33	34	61
Farm and recreation cottages	12	4	6	6
Recreation cottages	34	12	13	21
Other income based on land[c]	25	9	12	13
With no income from land	118	42	48	70
Total	284	100.0	113	171

[a] Includes all occupied tracts except 13 that were not completely within restricted districts and 8 for which data are not available. Neither direct nor work relief is included.

[b] Includes construction work, forest work, guides and caretakers, driving school buses or local government positions.

[c] This group includes those whose only source of income from the land is forest products, boats and bait, taverns, stores and other miscellaneous items. Those whose major source of income is from farming or recreation cottages may also receive part of their income from one or more of these items.

wholly or in part on "outside work" for their livelihood. Of all the families living in the restricted districts, 40% received some revenue from outside work. Nearly one-third of the non-conforming users who received outside income worked in the recreation industry largely as guides and caretakers, about one-fifth worked in the forest industry, about one-sixth drove school buses or had local government positions, and about one-tenth did construction work. Allowing for some duplication, about 20% of the families in the restricted areas had outside work of the types mentioned and a similar number had other miscellaneous work. Although there may be some increased opportunities for outside work in the forest and recreation industries in the future, other sources of outside work for the non-conforming users will probably continue to be meagre.

There seems to be little relation between the extent of "land income" and "outside income." Only 41% of those who reported *no* earnings from land had outside work, whereas 36% and 38% of those who had farm income and revenue from cottages, respectively, supplemented this income by doing "outside" work. (Table I.) Apparently the revenue from land, whether the land is used for farming or recreation, is seldom sufficient to support the families of non-conforming users. In 1938 nearly 40% of these families received relief in order to have enough to live on.

Those non-conforming users who have summer cottages for rent seem to be in a somewhat better economic position than other residents in the restricted areas. Less than 20% of these families were receiving relief in 1938 as compared with nearly 40% for all non-conforming users. Tax delinquency is also lower on those tracts where at least part of the income is received from the tourist trade. However, among the non-conforming users having accommodations for tourists, only those who have the more favorable locations and operate the larger resorts are relatively self-supporting. About half of the non-conforming users with cottages for rent had less than four. In 1938 nearly 30% of these families were on relief compared with about 10% of those having four or more cottages. Similarly, 46% of the tracts with fewer than four cottages were tax delinquent at least one year, com-

pared with 36% of those with four or more cottages.

Since the non-conforming users "live on the land" one might expect most of them to "do some farming" no matter what other occupation they might have. However, less than half of the 284 such families reported any cultivated crops other than hay. (Table II. "Cultivated" crops is used here and in Table III as the measure of agricultural operations since hay is frequently harvested from "abandoned" land. Hay land of this type approaches "wild hay" in its characteristics as a land use.) This is a striking indication of the insignificance of farming to the non-conforming users of this area. Furthermore, of those who had some crop land, as defined above, over half had less than 5 acres and only 11 had as many as 20 acres.

Dairying is the most important source of agricultural income for the non-conforming users yet only half of them had any cows and only about half of those with cows had any surplus dairy products available for sale. Farm crops, largely potatoes, are next in importance. Of the other sources of farm income, poultry was the most important. Over 100, or about a third, of the non-conforming users had poultry flocks but only 13 had 100 or more chickens. Approximately four-fifths of the families living in the restricted districts had gardens but very few received any income from the sale of garden produce.

It might be assumed that the acreage of cultivated land would increase with years of residence on the farm. However, non-conforming users who bought raw land, and therefore had no cleared land to start with, show little or no increase in the acreage of cultivated land per farm as the years of occupancy increase. Table III indicates that there is no appreciable difference in the area of cleared land of those settlers who had been on their farms from 1 to 8 years as compared to those who had from 9 to 16 years of residence. There is an increase for those who had lived on their farms for more than 16 years, but

TABLE II. EXTENT OF AGRICULTURAL OPERATIONS ON NON-CONFORMING USE TRACTS IN LANGLADE AND ONEIDA COUNTIES AND PART OF VILAS COUNTY[a]

Item	Tracts	Percentage of tracts
	Number	Per cent
Acreage cultivated:		
None[b]	153	53.9
Under 5	75	26.4
5- 9	24	8.4
10-19	21	7.4
20 or more	11	3.9
Total	284	100.0
Number of cows:		
None	145	51.1
1 or 2	61	21.4
3 or more	78	27.5
Total	284	100.0

[a] Includes all occupied tracts except 13 that were not completely within restricted districts, and 8 for which data are not available.

[b] Thirty-three of these harvested some hay from previously cultivated land.

TABLE III. YEARS OF RESIDENCE AND ACREAGE OF CULTIVATED LAND PER NON-CONFORMING USE TRACTS IN LANGLADE AND ONEIDA COUNTIES AND PART OF VILAS COUNTY, 1938[a]

Years of residence	Number of tracts	Percentage of tracts cultivated	
		Less than 10 acres	10 acres or over
	Number	*Per cent*	*Per cent*
1- 8	25	80	20
9-16	14	79	21
17-24	27	63	37
25 or over	8	50	50
Total	74	70	30

[a] All tracts were unimproved when first occupied by the present operators and all now have at least one acre of cultivated land per tract.

it is noteworthy that half of those who had 25 years or more to clear land had less than 10 acres in cultivated crops after a quarter century of residence.

It should be pointed out that Table III excludes all those who bought a partly-cleared farm and all those with less than one acre of cleared land. This tends to eliminate those primarily interested in non-agricultural occupations, but not all of them. Whenever other income opportunities absorb the owner's attention it is not likely that he will spend much time in the hard work of clearing land. In other cases the farmer may have cleared all the good soil he has on his tract. Since two-thirds of the non-conforming users have been on their land almost 10 years it is not likely that many of them can or will extend their agricultural activities. Seventy per cent have less than 10 acres "cultivated" which is far from being an efficient unit either for giving the farmer an adequate income or in accomplishing wartime agricultural production goals. Such farmers are "productively under-employed," even though their meager acres may seem to absorb all their time. In these days of shortage of manpower in agriculture and in other industries, non-conforming users of this type could add more to efficient production if they were employed elsewhere. Both zoning and the war effort will be benefited if such non-conforming users are moved to better soils with adequate acreages of cultivated land or are employed on the farms in the better parts of the state. At no time in the history of rural zoning does discontinuance of non-conforming users and relocation of manpower appear more fruitful than at present.

Objectives for the Relocation of Non-conforming Users

Relocation of non-conforming users and discontinuance of non-conforming uses may have four objectives: (1) efficient administration of the zoning ordinance; (2) elimination of the cost of public services due to isolated settlement; (3) relocation of settlers living on submarginal land; (4) relocation and reemployment of manpower now "productively under-employed."

Abatement of Non-conforming Uses as Part of Zoning Administration. From the standpoint of zoning administration, as such, it is a good policy to abate *all* non-

conforming uses. If all farmers, year-long resorts, business establishments and residences could be eliminated from the forestry districts and if all the land devoted to forestry were in public ownership or in stable private ownership, the problem of administration would be practically solved. The land would be in its best use, roads could be adjusted to the forest economy, and violators could be detected without much trouble. Even though many families will leave the restricted areas as soon as they see opportunities elsewhere and some non-conforming users can be eliminated by county action through exchange of lands or by tax reversion, undoubtedly public purchase will still be necessary to complete the task.

Before the expenditure of public money can be fully justified the officials in charge of zoning must be sure that all the land affected is justifiably included in the restricted district and that the purchase of non-conforming-use tracts will lead to a permanent adjustment of the area. For instance, an analysis of action taken in 21 zoned counties showed that of the 2,164 original non-conforming users in these counties, 288 or 13.3%, had been made "conforming" by changes in the boundaries of the districts.[3] Public purchase of these 288 non-conforming use tracts would not have been warranted as part of zoning administration.

Relocation to Save Public Costs. In the past, the main objective in the policy of discontinuing non-conforming uses has been the savings in the costs of schools, roads and other public services. Substantial savings in both school and road costs have been achieved by the submarginal land purchase program of the federal government. Prior to 1939 approximately 300 tracts occupied by isolated settlers—virtually all of them located in the restricted districts of 7 zoned counties of northern Wisconsin—had been purchased under this program. The relocation of these families resulted in an estimated saving in school costs of about $15,000 a year through the closing of 12 rural schools, plus several thousand dollars of annual expense saved in school transportation. Road costs were reduced primarily by the elimination of snow plowing expense and maintenance.[4]

In the study made in Langlade, Oneida and Vilas counties in 1938, it was found that about 40% of the non-conforming users had children in school and an additional 6% had children under school age who would require school facilities within the next few years. The percentage of families in the restricted districts with children of school age is probably about the same as that found in other rural areas but the sparsity of settlement results in small schools and high costs per child. To effect maximum savings for schools it is important that all the families patronizing a given school or using a particular bus route be relocated. An example of this occurred in one of the school districts of Langlade county. Four of the five families living in this district had been relocated by federal submarginal land purchases and the school had been closed. The cost of operating this school was approximately $1,140 annually. The children of the remaining family had to be transported to another school. Transportation plus tuition cost about $194 per year, leaving a net annual saving of $946. With the relocation of this one family all the school costs could be saved except for any additional expenses incurred in the communities to which the families had moved.

[3] W. A. Rowlands, "Zoning Meetings Well Attended," *Wisconsin Counties*, October, 1941, p. 14.

[4] L. G. Sorden, "Applying a Plan for Land and People," *Land Policy Review*, November-December, 1938, pp. 16-20.

The fact that half of the non-conforming use tracts have occupiers with no children is no guarantee that school costs may not have to be incurred in the future. Non-conforming use tracts do not lose their status merely because they are sold or transferred. A childless couple or bachelor may sell the farm, filling station or resort to a family with 10 children, or a married daughter may come to live with an old couple and bring a family with her. Every non-conforming-use tract or residence is a "danger spot" as far as future school costs are concerned. The recent law giving the state superintendent of schools the power to close small schools may help some of the situations but children will still have to be transported to whatever schools are in operation. Sparsity of settlement and isolation will always create public and private costs for the settler and his community.[5]

However, in some cases the restricted districts set up by zoning ordinances are so small that the non-conforming users send their children to the same schools as neighbors living in the surrounding unrestricted district. These settlers use the same roads and go to the same community centers. All public facilities would remain practically unchanged if they were to be relocated. The primary reason for setting up such small districts—some of which consist almost entirely of non-conforming use tracts—was to exclude settlers from submarginal land.

Even in a large restricted district there may be no justification for discontinuance of certain non-conforming uses from the standpoint of public savings. Whenever a road is used as a boundary between a restricted and an unrestricted district, there may be residences on both sides of the highway—those in the restricted district "non-conforming," the others not. Both use the same public facilities and nothing can be saved by buying out or otherwise discontinuing these non-conforming uses. Non-conforming users of this type may be eliminated by changing the boundaries of the district and including them in the unrestricted district. Cases of this type were included in the 288 cases "made conforming by later amendment" in the 21 counties already referred to. The opposite happens when the restricted districts are enlarged and additional land and residences thereby become non-conforming.

Some of the non-conforming users living in the "interior" of large restricted districts should not necessarily be bought out. If they live on "through roads" with easy access to schools, are located on good soils and have a satisfactory source of income, such settlers or residents do not necessarily constitute a problem from the standpoint of public expenditures. Moreover, whenever recreational property is involved there is no great desire on the part of local officials to have non-conforming uses abated because of the universal desire in northern Wisconsin to promote recreational facilities to the fullest extent, even if some public costs are involved.

It is almost impossible to measure the public costs of serving non-conforming users with roads. "Through roads" cannot be eliminated by relocating non-conforming users and the number of miles of road serving non-conforming users exclusively is not great. Some of the latter have to be maintained for summer use or to give access to recreational property. Furthermore, it must be recognized that while the closing of schools directly benefits the county by eliminating county aids and costs, the closing of town roads re-

[5] See George S. Wehrwein and J. A. Baker, "The Cost of Isolated Settlement in Northern Wisconsin," *Rural Sociology*, September, 1937, and "Relocation of Non-conforming Land Users of the Zoned Counties in Wisconsin," *Journal of Land and Public Utility Economics*, August, 1936.

duces the amount the town receives from the state under the "$65 a mile town aid" law. Neither is the county benefited by the closing of town roads. There is thus less incentive to close roads than schools but if the settlers along a given road are all relocated there is definite saving to the town in maintenance and snow removal costs. It is significant that 89% of the non-conforming users in the area studied have their roads kept open regularly by snow plows at public expense.

It may not be appreciated by people living outside of the cut-over area of the Lake States that isolation is more than a matter of miles; it is a matter of accessibility afforded or not afforded by the means of transportation available to the settler. He has to battle snow in winter and mud in the spring, especially on dirt roads. As long as the automobile is the universal method of getting to schools, to church, the stores and a market, roads must be kept passable all the year round or the settler is marooned. To make the roads of this area usable for automobiles in winter the roads have to be plowed out, drift fences constructed and ice formation prevented. The cost for any particular year varies with the amount of snow and the number of days it remains on the ground. On all but through roads, the cost per family served is in direct proportion to the isolation and dispersion of settlement. In one case 14 miles of road had been snow-plowed for two settlers and with the purchase of their farms, snow-plowing was no longer necessary. It is estimated that on a road of this type the annual cost of snow-plowing averages about $30 a mile.[6]

Relocation to Take Settlers from Submarginal Land. If saving of public expenditures were the only motive for zoning, some of the districts as they are now set up could not be justified. However, those in charge of zoning were also concerned with preventing people from settling on submarginal land. They justified the small restricted districts on the ground that "they had seen too many settlers starve on those tracts of land." Thus there was a dual purpose in restricting the use of land for agriculture in the minds of the people of the northern counties. This is significant in zoning administration because it shifts the objective from the restriction of residences to the control of land use. In fact all recreational districts —since they permit family dwellings— are exclusively concerned with regulating the uses of land.

If the prevention of settlement on "submarginal" land is justifiable then public assistance in the relocation of settlers who were induced or permitted to settle on substandard land is also justifiable. This applies to those in the unrestricted as well as the restricted districts, but there are added reasons for relocation of non-conforming users in zoned areas since relocation of settlers living on submarginal land also accomplishes other zoning objectives if these families are "high cost settlers"— which most of them are.

Relief is one indication of the low quality of the land and the inability of the soil to support the settler. However, in the three counties studied in 1938, this relationship is not easily established because only one-third of the non-conforming users depended upon farming for their living. Resort owners and other residents of the restricted districts were also "on relief." Nearly 40% of the families in the

[6] The cost of snow removal, drift prevention and ice prevention on 508 miles of State trunk highways in Bayfield, Marathon and Oconto counties in the period 1935-40 was $133.28 a mile. Accurate figures are not available for similar costs on county and town roads. See *The Wisconsin Taxpayer*, October 15, 1941, for state highway maintenance costs.

restricted areas of Oneida and Langlade counties received some form of relief in 1938. Not all relief costs would be eliminated if the families were relocated elsewhere, but indications are that the number on relief would be reduced greatly. Out of about 300 farm families that were relocated prior to 1939 as a result of the federal land purchase program in northern Wisconsin, approximately half of those formerly on relief became self-supporting after relocation, even before the recent improvement in economic conditions.[7]

Relief data were secured for about three-fourths of the restricted area of Langlade and Oneida counties. The total amount of relief received by families in this area was approximately $19,000 in 1938, or $271 per family for those receiving relief. The average relief cost for all families in this area during 1936 to 1938 was $58 annually. These figures included direct relief, W.P.A. payments and Farm Security Administration grants. W.P.A. payments accounted for 75% of the total amount, and direct relief and F.S.A. grants accounted for 15% and 10% respectively.

One way of appraising the costs of providing non-conforming users with governmental services is to compare these costs with the taxes expected from the owners of these tracts. The residents of the restricted districts in the counties studied have places that are assessed at an average of approximately $1,000 on which an average annual tax of $33 is levied. Allowing for some tax delinquency, this amount is only about one-half as great as the relief costs alone, to say nothing of the costs of supplying schools, roads and other governmental services.[8]

Relief costs, meager taxes and tax delinquency are indications of the low quality of the land and of the high cost to the public of maintaining people on submarginal land. Relocation in such cases will accomplish the double purpose of salvaging human beings and of reducing public expenditures.

Since the closing of low quality land to agriculture is still one of the main objectives of zoning, thought might well be given to enlarging the restricted districts. Besides the area closed to agriculture in Northern and Central Wisconsin (roughly 5 million acres) the publicly owned land and the land actually in farming, there is at present another 2 to 3 million acres of land still open to settlement. It has been estimated that not over 500,000 acres of this area are of good quality. The judicious closing of the land least desirable for farming would make zoning an active, directive measure, especially if, in the post-war period, a back-to-the-land movement should be generated.

To the extent that settlers on low quality land in unzoned areas are also relocated it will be easy to enlarge the restricted districts to include the territory in which the relocated settlers had lived. Few additional non-conforming users would be created under such a program and submarginal land would be closed against future settlement.

Relocation of Manpower to Increase National Efficiency of Production

The most important reason, however, for relocating non-conforming users at the

[7] L. G. Sorden, *op. cit.*, p. 17.

[8] These figures are of interest when compared with similar data obtained in 1934 for over 1,000 isolated northern Wisconsin farm owners. The average assessed valuation of their farms of 87 acres was land $566, improvements $260. Taxes averaged $25.52 per farm which represented 16½% of their *farm* income (other sources not included); 35% of the farms had been delinquent an average of 2.3 years. Thirty-seven per cent were on relief. *Journal of Land and Public Utility Economics*, May, 1939, Tables II and VII and pp. 193-194.

present time is neither the savings in public costs for schools, roads and relief nor the increased standards of living for the families but the increased production of farm or industrial products which this relocation would make possible.

Some indication of the low productivity of manpower on farms in the cut-over area of Wisconsin can be obtained from an analysis of census statistics. The average value in 1939 of all agricultural products per-farm worker over 14 years of age ranged from $400-$700 in northern Wisconsin counties to $1,000-$1,300 in southern Wisconsin. More non-farm work was performed in the northern counties but the maximum average number of days of such work per farm in any county was about 75. This probably would not add over $100 per worker per year since the farms average about two workers per farm. Thus, the total output per rural worker is about twice as great in southern Wisconsin as it is in the zoned counties of the north.

Productivity on the poorer farms, as represented by the non-conforming-use tracts, is even lower. Agriculture on most of these tracts could be discontinued entirely without affecting the commercial production of farm products appreciably. In some cases the operators on the better non-conforming use tracts can leave and the land be cultivated or used for hay or pasture by neighbors living outside the restricted zone. In this way production on these tracts would be maintained, local governmental costs would be reduced and a large amount of labor released to areas of deficient manpower. It has been estimated that a program of this kind, applied to the whole United States, would release one million or more men for work in areas of deficit agricultural labor or in war industries.[9]

[9] J. C. Ellickson and J. M. Brewster, "Manpower and the American Farm Plant," *Land Policy Review*, May, 1942, p. 20.

In the area covered by the survey of 1938 only one-third of the non-conforming users had an agricultural income. However, since this is one of the most highly developed recreational areas of the state the proportion is abnormal as far as the entire cut-over region is concerned. Moreover, most of the other two-thirds having no agricultural income are by no means fully employed. Table I is ample evidence of this fact. Many depend on outside work which is uncertain and limited. More important still is the fact that of those with no income from the property, 60% did not even have outside work. Those depending on recreational income are restricted largely to income during the summer. Finally, the relief figures also indicate substantial underemployment among non-agricultural as well as agricultural non-conforming users. Thus the benefits of relocation of manpower from these areas are by no means limited to families attempting to carry on agricultural operations.

Manpower Available Among Non-conforming users. Relocation of the "underemployed settler" applies to the settler with small acreage in the unrestricted districts as well as to the non-conforming users in the forestry and recreation districts of the zoned counties. However, not every settler who should be relocated is capable of being placed in industry or on other farms. Age and ability to adapt themselves to other occupations, other locations and conditions are important factors in selecting families for relocation. In the area studied in Langlade, Oneida and part of Vilas county, 41% of the non-conforming users were under 45 years of age, 16% were 65 years or more and the remainder, or 43%, were between 45 and 65 years of age. In this area the age of

residents in the restricted districts was not appreciably higher than for other rural areas of the state as a whole. Judging by age alone, certainly those under 45 years of age should be eligible for industrial and agricultural work elsewhere and perhaps half of those in the next age group (45 to 65 years).

There are indications that this age distribution does not hold for all sections of northern Wisconsin. For instance, in the purchase of submarginal farms in Bayfield county by the Resettlement Administration, age was a serious factor. Furthermore, age is not the only consideration. Among the families of the north, relocated by the above program, there was a higher than normal percentage of people incapacitated for work and a surprisingly large number of widows.[10] In the study of the isolated settlers made in 1934 it was found that one-eighth of the married men among the 1,233 owners were physically disqualified for the forest labor which was to have been their primary source of income under the Forest-Farm Homesteads plan.[11]

In the Langlade, Oneida and Vilas county area approximately half of the non-conforming users reported that they had been engaged in urban occupations immediately prior to locating on their present tracts. About a third had been farming or working on farms and the rest had been engaged in forest work or other local rural occupation. The high percentage having previous urban experience indicates that many would adjust themselves better to industry than to farming in some other location. The present period of industrial activity should therefore, offer much greater opportunity for the relocation of non-conforming users than has any other period since zoning was adopted.

[10] Statement of L. G. Sorden, former project manager, Wisconsin Isolated Settler Relocation Project.

[11] George S. Wehrwein, "The Economic Status of Isolated Settlers in the Cut-Over Area of Wisconsin," *Journal of Land and Public Utility Economics*, May, 1939, pp. 193-194.

Public Program to Facilitate Discontinuance of Non-Conforming Uses

Since the full utilization of manpower in the war program, as well as full realization of the objectives of rural zoning, depends upon the discontinuance of the non-conforming uses, it is important that the programs to accomplish this purpose be inaugurated and coordinated.

The discontinuance by private action that removed 14% of the non-conforming users in the area studied in 1938 will no doubt continue at an accelerated rate now that there are many other opportunities in other parts of the state. However, voluntary discontinuance is unreliable and haphazard and may not result in as great a movement of workers as public welfare demands or as might even be desired by the under-employed families themselves. Many families do not leave because they are unaware of employment elsewhere. Others do not want to leave and abandon their investment in land and buildings; they would like to sell but there is virtually no market for isolated, poorly-improved properties. Still others would leave if they were sure of work and if their travel expenses were paid. Finally, many are afraid of post-war unemployment and do not want to leave their homes unless they feel they can come back to their own, or equally satisfactory, farms later if they wish to do so. This creates no problem if the settler lives on good land in an unrestricted district but it involves administration of zoning if non-conforming users should want to return to their farms after their employment elsewhere is over. This may call for action on the part of a board of adjustment or for county board action.

On the other hand, it may be in the interest of public welfare that these particular non-conforming uses be completely terminated. In such cases a purchase or exchange program is the only logical solution.

In many ways the leadership in these programs should rest with the counties. The trading of county-owned land may be a more important tool for land-use adjustment and for regulating occupancy in the restricted districts than it has been in the past. About half of the counties have made some use of this program. Some of them have purchased non-conforming tracts. The latter calls for money and the counties have limited funds for such programs.

The counties, however, have cooperated with the federal government in its land purchase program. As stated earlier, prior to 1939 about 300 isolated settlers, most of whom were non-conforming users, had been bought out. Later, when purchases were restricted to non-conforming use tracts, an additional 160 families had been relocated (1939-1942). The method of selection followed so far may well be continued in the future. The objectives of relocation should be different today than they were before Pearl Harbor.

The procedure followed by the counties was to have the zoning committee go over the lists of non-conforming users and place them into two classes, those recommended for relocation and those who were not. Those recommended for relocation were divided into three groups as to priority, depending on the need for relocation. The tracts to be purchased were inspected and checked as to savings that could be made if the land were bought out. In this way the most acute cases were given preference. Twenty-one of the zoned counties made their classifications during 1940 and 1941. Of the 1,447 non-conforming uses then reported as in existence, about one-half were recommended for public purchase or exchange.[12] It is interesting to note that a little over two-thirds of the occupied non-conforming use tracts were classified as farms as compared to the one-third in the area studied in Langlade, Oneida and Vilas counties in 1938; 20% were classed as rural non-farm, 8% as resorts, and 2% as commercial establishments. Very few of the last two classes were recommended for relocation.[12]

At that time savings in public cost were the chief standard used in selecting families for relocation; at the present time the need to relocate manpower may well be put at the head of the list of objectives, backed up with public funds to buy out the holdings of non-conforming users and other settlers.

A beginning has recently been made toward a comprehensive system of publicly sponsored relocation of under-employed persons from marginal agricultural areas, whether restricted by zoning or not, to good farming areas in need of man labor or to war industries. The Farm Security Administration has been given the responsibility of getting in touch with potential workers in the recruiting areas, and the United States Employment Service in cooperation with the Farm Security Administration interviews the farm or industrial employers in the areas needing help. Families or single men are encouraged to move by providing information regarding opportunities or, if necessary, by financial assistance. This assistance usually takes the form of payment of traveling expenses. Aid in finding a place in which to live may also be provided. As a step in the procedure and as a measure to guarantee maximum agricultural production, the Farm Security Administration may ar-

[12] W. A. Rowlands, *op. cit.* (Data on land use from unpublished portion of study.)

range, through loans or otherwise, for the farms thus vacated to be operated by neighbors. This operation may follow purchase by the neighbor as an addition to his farm, or it may be provided for by other arrangements.

This program should be closely coordinated with the land purchase program and the zoning program so that each case can be handled the most advantageously with regard to the need both for moving manpower at the present time and achieving the best long-time land use adjustment in the zoned districts or other submarginal areas of the north. The extension of restricted zones is now a prerequisite for land purchase outside the present restricted districts and doubtless should continue to be. Where non-conforming uses are discontinued, zoning can prevent their resumption. Where submarginal farms outside the restricted zones are abandoned through the relocation of their operators, it may be expedient and desirable for the county boards to extend the zoning boundaries so as to take advantage of this desirable adjustment in population distribution and prevent possible recurrence of the present uneconomic situation.

Summary

Rural zoning in northern Wisconsin was started in the early 1930's largely as a result of the back-to-the-land movement at that time. It was an attempt to prevent excessive school, road and other public costs which result from isolated settlement and to direct agricultural settlement away from poor land. Prior to zoning, however, many families had settled in isolated locations on poor land, and since zoning is not retroactive, these "non-conforming users" were not affected by it. Local officials, therefore, have been anxious that these families be given every encouragement to relocate so as to reduce government costs and individual hardships.

The present war emergency has added a third, and more compelling reason for relocating non-conforming users from zoned areas and families located under similar conditions outside restricted districts. This is the need for making the most productive use of all the manpower of the nation.

A study of non-conforming users in three counties of northern Wisconsin conducted in 1938 and 1939, together with certain information from other sources on the isolated settlers in other counties of the north, shows conclusively that such settlement not only incurs heavy costs for local government and returns meager incomes to the operators but contributes very little toward national food requirements. Moreover, it is apparent that this situation will continue indefinitely into the future.

The relocation of this inefficiently used manpower and its placement on farms in better agricultural areas or in war industries would, therefore, serve both to increase the effectiveness of our present war program and to bring about a desirable long-time adjustment in the zoned counties. Many of the families will move of their own accord as they see opportunities elsewhere. Very many others, however, will need to have these opportunities found for them and brought to their attention or have some financial help, such as travel expense to the new location or public purchase of the properties they now occupy.

The counties have helped many families to relocate, principally by trading county-owned, tax-deed land outside the restricted districts for non-conforming use tracts inside. They have also prevented resumption of use and occupancy of abandoned tracts. The federal government has bought

out and relocated about 500 families formerly on isolated tracts in northern Wisconsin and has recently begun a program of encouraging the relocation of large numbers of families and single men by bringing to them specific information of job opportunities elsewhere and giving financial aid where needed. All these programs must be closely coordinated in order that each case can be handled the most advantageously, with regard to the need both for moving manpower at the present time and for achieving the best long-time land-use adjustment in the zone districts and other areas of the north.

Economic Planning In A Democratic Society

By DUDLEY F. PEGRUM*

I

IN a world beset with disorder, it is but natural that people everywhere should seek a formula for stability and orderliness. The word "planning" connotes orderly procedure and also a consciously determined pattern of action. As such it becomes a soothing lullaby to masses, weary of being tossed about and weary at times of trying to think through the bewildering maze that confronts them.

An analysis of the concept of planning, its implications and ramifications, however, quickly reveals a complexity which the term itself too readily glosses over. At least three different approaches are possible and all of them must be considered if planning is to be appraised as to its possibilities in the post-war world we hope to be able to shape.

It can be treated from the standpoint of pure economic theory. Logically this is the first step in the analysis. In this setting planning becomes an exercise in formal logic, the solution of which depends upon the assumptions made or implied and the possible conclusions which may be derived from those assumptions. Much of the debate in scientific economic literature has taken place on this level.[1] It should be noted, however, that this approach is not only fundamental to the whole problem, but it also focuses attention on the issues at stake.[2]

A second type of approach is the politico-economic. This necessitates an examination of the various political and other institutional arrangements which would be necessary to implement a planned economy. It would predicate a planned economy as the focus of attention and require an analysis of the socio-political implications of such a type of economic organization. In short, the socio-political requisites for implementing a planned economy would be the centre of discussion.

A third approach, for want of a better term, may be called the institutional. This calls for an examination of planning within an existing institutional structure. In the United States, it would mean an investigation of the possibilities of planning for a capitalistic economy. It would involve an analysis of the means by which the government of the United States could, by a coordinated and centralized policy, direct the economic activity of the country in accordance with clearly formulated intentions for the securing of economic stability, full employment and public welfare. The extent to which this could be accomplished by centralized direction would also come in for careful consideration.

These approaches are not exhaustive,

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[1] This approach also involves the controversy over the nature and scope of economics. If economics as a science is to be regarded as a purely formal discipline, then the problem, so far as economics is concerned, ends at this point. In fact, however, this has not been the case because the possibilities of planning in the world in which we live constantly intrude. Economics without human beings is simply not economics. But see: F. H. Knight, *The Ethics of Competition*, (New York: Harpers and Bros., 1935) Chap. iv, and L. Robbins, *The Nature and Significance of Economic Science* (London: MacMillan, 1932).

[2] Cf., F. M. Taylor, "The Guidance of Production in a Socialist State," reprinted in B. E. Lippincott, *On the Economic Theory of Socialism* (Minneapolis: University of Minnesota Press, 1938) p. 41.

nor are they mutually exclusive or simultaneously coextensive. While they present different problems and issues, they are at the same time coordinate parts of the most fundamental question in this country today, namely: What kind of economic policy shall we follow in the post-war period? It is necessary, therefore, to examine planning on all three levels if it is to be appraised as a possible answer to the problem of the world in which we live. The impact of planning on existing institutions, and vice versa, are matters which cannot be avoided even by economics.

Comprehensive proposals for reform are as old as systematic human thought. It was not until the recent depression, however, that the issue of planning became vital in this country. Since then, the controversy has raged on all three of the planes mentioned above. The inadequacy of the institutional arrangements and intellectual equipment to grapple with the problems that have arisen since 1914, the success of war-time economic devices for war purposes and the world-wide economic breakdown of the post-war period not only have led to sweeping concentrations of control in the hands of the nationalist state, but also have given rise to the belief in the efficacy of the state, and the state alone, to grapple with the impasse. Now we are again in the throes of an exhausting conflict and we look with trepidation to a future that is terrifying because of the baffling dilemmas it presents, and because of the experiences of the immediate past.

In such a setting it is of paramount importance that we examine the relationship of government to industry in its conceptual framework. The details of the post-war period are largely beyond our ken; but the methods we are going to adopt in dealing with the issues that will arise, and the objectives we hold, need to be probed to the bottom now. For this reason, an examination of economic planning is not "beating the devil around the stump." Rather it focuses attention on the fundamentals of public policy for reconstruction and brings within its purview the growing list of publications on proposals for the future.

II

The problem of definition is everywhere present in economic analysis and nowhere is this more in evidence than in connection with the discussion of planning. This term has a veritable welter of meanings. In the field of industry we have industrial planning which deals with investment policy, marked exploitation, production policy, plant location and layout, and so forth. In government, the most widely developed idea so far is that of city planning of sewage, water, public utilities, streets, parks, schools, zoning, civic centres and public buildings. In recent years, this has been expanded into regional planning especially in connection with the utilization of natural resources. The Tennessee Valley Authority was established on a basis that amounted to a complete sociological experiment. Very recently we have been subjected to wholesale military planning—the direction of the entire life of the country for one supreme end.

The use of the term "planning" as applied to the direction and control of economic activity has become a fad. As a result it has become infected with ambiguity and has been used in such a variety of ways as to give it virtually no content. Its meaning shades all the way from totalitarian direction of economic activity to coordinated public policy designed to achieve given objectives, even though the

latter be only vaguely defined.[3] In any case the implication is that authority to administer accompanies whatever plan is adopted.[4] Consequently, voluntary planning is a misnomer. Within the limits of planned action, voluntary cooperation is meaningless; hence compulsion is the only resort if the plan is to succeed. Economic planning may be defined then, as "A limiting or shaping of individual and corporate activity into group defined spheres of action which are rationally mapped out and fitted, as parts of a mosaic, into a coordinated whole for the purpose of achieving certain rationally conceived and socially comprehensive goals."[5] In an economy based on these principles the government becomes the dictator of the patterns and the administrator of the resources of the society which it controls.

III

The gigantic upheaval that has engulfed the world during the last thirty years has rocked orderly social life to its foundations and destroyed it over wide areas. On the economic side our modus operandi have been inadequate to deal with the problems that have arisen and capitalism has been unable to resurrect us from the morass in which we have floundered. Capitalism has long been under indictment for the shortcomings it has manifested; its breakdown under the strain of war and the inter-bellum period has led not only to a renewal of the assaults but to widespread doubts as to its ability to grapple successfully with the economic problems of the modern world. The prospects of the post-war reconstruction enhance these doubts.

Economic planning is advanced as the only rational basis upon which economic reconstruction can be built. But this is not its sole claim. Planners are convinced that capitalism is a failure, that the technical structure of modern industry is totally unamenable to the assumptions of free enterprise and that present economic institutions are incapable of preventing violent fluctuations of economic activity or of attaining reasonable standards of economic justice. Only by appropriate planning, it is contended, can the desirable ends of economic activity be even approximated.[6]

From the literature on the subject it is extremely difficult to ascertain anything more than a nebulous outline of the nature of a planned economy. The necessity of centralized control and the need for eliminating disturbing non-conformity has resulted, however, in pretty general agreement that some form of a socialist state would be inevitable.[7] Under such circum-

[3] Cf., J. M. Clark, *Social Control of Industry*, (New York: McGraw-Hill, 1941) Chap. 28.

[4] It is urged by some that we have always planned and that the issue today is merely what kind of planning we shall adopt. Even laissez-faire is regarded as a form of planning. This is the contention of Mr. Galloway, *Planning for America*, (New York: Henry Holt and Co., 1941, p. 6); yet he distinguishes between a *planning* economy and a *planless* economy in which free markets are the arbiter. Later he argues (Chap. 33, especially pp. 664 ff.) that free enterprise and laissez-faire must go, and that only by collectivism can society be planned and guided. The implications of the term *planning* are such that a clear-cut understanding of the issues involved can be obtained only if the definition provides a delimitation sufficient to differentiate it from other alternatives in public policy.

[5] Wm. M. Loucks, "Public Works Planning and Economic Control," *The Annals*. July, 1932. Cf., also D. F. Pegrum, *The Economic Issues of Planning*, (Proceedings of the Pacific Coast Economic Association, December, 1932) pp. 24-25.

[6] Cf., for example: Barbara Wooton, *Plan or No Plan* (London: Farrar and Rinehart, 1934); G. B. Galloway, *op. cit.*; Stuart Chase, *The Road We Are Travelling* (New York: The Twentieth Century Fund, 1942); George Soule, *A Planned Society* (New York: MacMillan, 1932).

[7] For a good preliminary bibliography and survey of the literature, see Robert Mossé. "The Theory of Planned Economy," *International Labor Review*, September, 1937.

stances all the resources would be under the direct control and administration of the planning authority.[8] The state would be the sole producer, maintaining exchange relations with its citizens, buying their productive services with money and selling to them the commodities which it produces. A "socially correct" system of incomes would be established; that is, incomes would be fixed so that they represent that distribution of the total income of the state which is called for in the interest of citizens generally and of the group as an organic whole. Consumers' freedom of choice would be maintained. The preferences of consumers, as expressed by their demand-prices would be the criteria of production policy and of the allocation of resources. Freedom of occupation would be allowed, the allocation of labor being determined by the market price. A social dividend would be paid so as to make the income of labor (the sole source of income in such a society) conform to the "socially correct" system of incomes. The rate of capital accumulation would be determined by the governing authorities.

The administration of this economy would be in the hands of a central planning board. The problems of economic calculation—that is, the allocating of resources—would be solved by the board in accordance with the principles which govern competitive equilibrium. This board would perform the functions of the competitive market. It would establish the rules necessary to maximize output. One rule would require the combination of agents of production on such a scale that the average cost of production would be at a minimum. Another rule would require that the marginal cost of an industry be equal to the price of the product. The prices of consumers' goods and the services of labor would be settled by the market, but all other prices would be determined by the board. This would involve what is called the problem of imputation, that is, ascertaining the effective importance in the productive process of each primary factor. This would be essential to the calculation of the resources-cost of any commodity without which it would be impossible to compute the correct selling price. Assuming the stock or income of each primary factor available for the current production period to be a determinate quantity, the administrators would assign provisional prices to the factors of production. By trial and error—that is, by successive approximations — the correct accounting prices would be ascertained and the problem of equilibrium solved.

Such, in very brief form, is the theoretical solution of pricing in a socialist economy. The conditions assumed are ideal, of course, but they would have to be approximated in any planned economy.

IV

If planning is to be appraised as something more than a mere logical exercise—in other words, if it is to be regarded as a proposal for the guidance of economic activity—then the verdict as to its possibilities must rest upon its relevancy to the world in which we live, or want to live. Planning as a practicable objective must be viewed in relation to other aspects of

[8] The following summary of the theory of a planned economy is taken from the two articles by F. M. Taylor and O. Lange, reprinted in Lippincott, B. E., *op. cit.* These two articles constitute the most complete theoretical picture of a *planned economy*. For a theoretical analysis which reaches opposite conclusions see F. A. von Hayek, *Collectivist Economic Planning* (London: Routledge, 1935). For an appraisal of the controversy see D. F. Pegrum, "Economic Planning and the Science of Economics," *American Economic Review*, June, 1934 pp. 298-307; C. Landauer, "Comment," and D. F. Pegrum, "Rejoinder," *American Economic Review*, December, 1941, pp. 825-833.

social life.[9] It is incorrect to assert that the economic issues have been solved if the surrounding social institutions have been ignored unless it is assumed that the economist or the administrator can dictate or create the conditions essential for the solution.[10]

The theoretical model of a planned economy is based upon the idea that economic science is purely a matter of mechanics. As such it does nothing more than solve a formal problem and the solution to the problem is obtained by making all the assumptions necessary to that end. The result is a statement of conditions that would have to obtain if planning were to be successful. The exclusion of all conditioning factors as non-economic is achieved by definition. Such a procedure may have analytic advantages but it forms a very precarious foundation for the erection of a new social order.[11]

The possibility of economic calculation and economical production depends upon the assumptions. The theoretical model of a planned economy is based upon the requisites of perfect competition and a highly undifferentiated society and production structure. The observance of the rule that producers must fix output at the quantity which makes marginal cost equal to price is possible only under such a condition. The existence of a complex technology such as characterizes the modern world with joint costs, overhead costs, varying degrees of competition, and so forth, not only renders the rule for planned production impossible but also unascertainable. Marginal cost in theoretical economics is a convenient conceptual device for establishing the focal point of rational production calculation, but the content at least still remains to be discovered.[12] If it be urged that the planning board would be merely doing in a rational way what entrepreneurs have to do in ordinary business every day, the reply is that what entrepreneurs do and should do are still open questions. Business is an art the scientific principles of which economists are still struggling to discover.

Finally, in this connection it should be noted that present concepts of costs under perfect competition and costs under monopoly are two different things and competive cost curves are inapplicable to monopoly situations. Yet, the problem of calculation under planning is solved by applying to complete monopoly the techniques of perfect competition. If perfect competition obtained, there would be no need of planning. If monopoly characterized the structure, new and undiscovered theoretical techniques would be necessary to maximize income.

This brings out another difficulty of planning. Modern economic theory has developed under the influence of western industrialism and capitalism. If competition had not been a significant feature of economic life it is doubtful that competitive concepts would have developed and it is certain that whatever concepts might have emerged would have been decidedly different from those which exist today.

It follows that the question of how the goal of planning is to be reached is of

[9] Cf., D. F. Pegrum, "Economic Planning and the Science of Economics," *op. cit.*

[10] Professor Landauer believes that the socio-psychological and institutional presuppositions necessary for planning can be created, (Cf., C. Laudauer, *op. cit.*, p. 828) but obviously these arrangements would have to be predicated on an economic order the structure of which had already been devised. In other words, rational economic behavior becomes the absolute of such a society and all other social arrangements must fit the economic pattern.

[11] Cf., D. F. Pegrum, "Economic Planning and the Science of Economics," *op. cit.*

[12] Cf., for example, Alfred C. Neal, "Marginal Cost and Dynamic Equilibrium of the Firm," *Journal of Political Economy*, February, 1942, pp. 45-64; and C. Reinold Noyes, "Certain Problems in the Study of Costs," *American Economic Review*, September, 1941, pp. 482-6.

crucial importance. Radically new psychological presuppositions and institutional arrangements would be absolutely necessary. What they would be and how we would get them are still in the realms of mystery. How then can we place any faith in the validity of plans even for only one phase of activity in such a society? If the goal is to be reached gradually, other difficulties arise. Human society is distinguished by behavior patterns socially acquired and transmitted. Gradualism implies an adaptation of psychology and institutions to changing conditions in which man is both the actor and the passive victim. The results of these processes are not only unpredictable for any length of time, but they also preclude any development towards a predetermined and precisely formulated comprehensive goal. Revolutionary procedure creates chaos and evolutionary growth engenders unpredictable structural mutations and arrangements.

A planned economy is a closed economy by the very nature of the assumptions. This might mean that it would be a world economy or a rigidly national one. The first may be dismissed as being totally out of the question in the present stage of human development. The second merits the fate of condemnation because of the results it would produce. A planned national economy is incompatible with international economic intercourse.[13] International trade would upset the assumptions upon which the planning was predicated and would lead to repercussions on the internal structure of the planned state which would destroy the operation of the plans. The external frictions engendered could lead to nothing but armed conflict. In short, nationalist economic planning would be continuous planning for war.

The foregoing analysis indicates the incompatibility of economic planning and democracy. The conflict between the two, however, needs further emphasis. The basis of democracy is the individual with individual rights and responsibilities. The individual must have some kind of independent status which officialdom cannot destroy. An economic status completely dependent upon the dictates of a central planning board would be a complete negation of this. The economic counterpart of political freedom is private property and contract—that is, a society in which free enterprise enjoys a major role. The concepts which underlie political life also form the foundation for the implementation of economic activity. In practice this requires a great deal of decentralization of action, responsibility and initiative. It assumes, moreover, that individuals have some degree of free will and can modify their environment, even though it be recognized that the latter is a strong conditioning factor.

In contrast, planning assumes that economic activity conforms to a purely mechanistic pattern. It is an absolute concept and universal. It recognizes no change which can affect structure. Logically, and in practice, this results in "statism" with the individual submerged or ruthlessly crushed in the all-consuming quest for the ideal. The individual is, and must be, regarded purely as an "economic man." The interaction of the multitude of activities which constitute human life are ignored or else assumed to be capable of being moulded into a form amenable to the needs of the planned economy. A planned society would be a much more descriptive term. Freedom of speech, freedom of expression, freedom of communication would be lit-

[13] Cf., Lionel Robbins, *Economic Planning and International Order* (London: Macmillan, 1937); J. B. Condliffe, *The Reconstruction of World Trade* (New York: Norton, 1942) Chap. x and xi; Raymond Leslie Buell, "The United States in a New World, *Fortune*, May, 1942, pp. 1-25.

erally impossible, because the organs of public opinion could not be politically independent if controlled or owned by the state.[14]

It should be noted in passing that a good deal of the fervor for planning arises from the widespread belief that political and economic life are necessarily becoming more and more integrated. This is partly due to the growth of the nation state to the position of inordinate importance that now plagues the world.[15] If this war does not bring a modification of that development, our present hopes and aspirations are doomed to failure. The development of highly differentiated societies which characterize the modern world points in the opposite direction. The conflict is fundamental and a return to a mediaevalism will mark the demise of democracy. Perhaps we are witnessing a modern Reformation.

The attention which has been given to the possibilities of planning as a solution to the business cycle deserves extensive analysis.[16] That is not possible here; but, lest it be assumed that this issue has been evaded, mention must be made of it. The basic contention of planners, so far as the business cycle is concerned, is that it is the result of the deficiencies of modern capitalistic enterprise. This is nothing more than an assumption which is then used to prove the thesis. No theory of business cycles has yet explained a particular depression and formal theory simply cannot explain business fluctuations. The framework and technique as in the case of the planned model is mechanistic. Such theory is totally incapable of exposing or describing evolutionary processes, but the word "dynamic" can mean nothing less than this when applied to social (and hence economic) change. The extreme emphasis in contemporary theory on the monetary phases of business cycle causation has served only to accentuate the mechanistic approach.[17]

The excessive attention to the private economy aspects of business cycles has either glossed over the technical conditions of capitalism as contrasted with the institutional or else assumed them to be non-economic. The highly complex nature of modern production processes is bound to result in maladjustments and nothing short of perfect foresight and perfect adaptability can prevent them. Private enterprise at least has the advantage of a welter of judgments which have some compensatory elements. A planned economy would move in unison but by so doing would be subject to greater extremes. Democracies characteristically are subject to less extreme movements than other forms of social organization and these re-

[14] Cf., J. M. Clark, "The Relation of Government to the Economy of the Future," *Journal of Political Economy*, December, 1941, pp. 800-801; F. H. Knight, "The Individual in the Future World," *Journal of Political Economy*, December, 1941, pp. 817-832.

[15] Cf., Ferdinand Schevill, "Can Our Civilization Achieve a More Stable World Order?" in W. Laves, *Foundations of a More Stable World Order*, (Chicago: University of Chicago Press, 1941).

[16] For an excellent discussion of this aspect of the problem cf., Wilhelm Röpke, "Socialism and the Business Cycle," *Journal of Political Economy*, June, 1936, pp. 318-338.

[17] Cf., Henry C. Simons, "Hansen on Fiscal Policy," *Journal of Political Economy*, April, 1942, pp. 161-196. Business cycle theory proceeds on the basis of purely mechanistic assumptions to explain the "regular" recurrence of economic fluctuations and the inevitability of them under the institutional arrangements of a capitalistic economy. But if they follow a purely logical or mathematical pattern, why should it be necessary to presuppose any particular institutional order? Nothing short of a physical science concept of economic activity can create a regular pattern of economic behavior. If this is actually the case, then nothing can be done about business cycles. In point of fact, the depression since 1929, which has been so much the centre of attention, can be explained without resort to general trade cycle theory. Far more attention needs to be given to the repercussions of public policy and less to the mechanics of theoretical models.

marks are as valid for economic as for political considerations.

Finally, economic disturbances are not all caused by economic factors and economic institutions should not be blamed for results arising from events they neither created nor promoted. No amount of literary or logical legerdemain can gainsay the fact that wars are appallingly costly. Nations cannot have the wealth, at least for peace purposes, when the war is over that they had at the start. Whether we like it or not the war will have to be paid for and a greater proportion of our productive effort will have to go into the re-creation of capital goods than otherwise would have been the case. This may be accomplished by working much harder than we have been willing to do heretofore, or by consuming less, or probably both. We may deal, in part at least, with maladjustments and general reduction of real wealth by levelling all in the same ditch but it will not conduce to clarity of thinking to insist that a depression has been avoided because full employment exists at compulsory lowered standards of living.[18] Given the existing situation, and not the idealizations of pure theory, a planned economy can offer no better than this.

V

No discussion of planning at the present time can be concluded without reference to reconstruction. The present conflict has halted, temporarily at least, the readjustment of institutional arrangements to profound new forces that have made themselves manifest during the last quarter of a century. It has also aggravated immeasurably, in some respects at least, the situation that already had us so badly bewildered. We now have a planned economy, of a sort, and we shall have more of it before peace is restored. In the modern world, a war economy is necessarily a planned economy. The planning in this country is, however, operating through definitely democratic procedures and is relying basically on the cooperation of free enterprise. The way in which capitalism and democratic institutions have met the crisis is in itself adequate testimony to the strength, vitality and adaptability of our way of life. We need offer apologies to no one.

This very success, however, creates a danger. The devices and procedures appropriate to the prosecution of a war are not capable of winning the peace. The pursuit of the analogy constitutes one of our greatest threats in the years to come The fundamental problem of reconstruction is that of changing from a war to a

[18] But Cf., *National Resources Development, Report for 1942*, (Washington, D. C.: Resources Planning Board, U. S. Government Printing Office, 1942): "Everywhere one hears it said that, when this war is over, all countries, including our own, will be impoverished. This view, however, is not sustained by past experience. No country need be impoverished if its productive resources(both capital and human) are intact. The productive resources of this country will be on a considerably higher plane when this war is over than ever before." (p. 9) And again the same agency in: *After the War—Full Employment*, January, 1942: "Costs and income are just opposite sides of the same shield." (p. 5) On the basis of this reasoning any spending whatsoever performs a useful function and adds to the sum total of income (real?) of the nation. To build ships, load them with goods, send them out to sea and deliberately sink them would provide an income to compensate for the costs. In fact, to sink them in the harbor would be even better, for then employment and income could be derived from clearing the harbor. If the reasoning in the above quotations is correct we should pray for a war that will demand production (of war goods) as never before envisaged, and pray for a dearth of consumers goods such as to drive all to the level of instant poverty so as to create the maximum of backlog. By such reasoning the "economy of abundance" leads us to the "paradise of poverty."

peace economy.[19] The need for the withdrawal of government from the position of direction and management which it must assume during war and the restoration of arrangements that will make private enterprise once more the foundation of our economy is the crux of the whole problem.

This does not mean a return to laissez-faire as that doctrine was understood or applied. At its inception, that philosophy probably had no more connotations than did the ideas of political freedom. It was based upon the belief in "natural law" that prevailed in the 18th century. The concept was profoundly affected, however, by 19th century physical science. The triumph of physical science under the theoretical structure developed by Sir Isaac Newton led to the adoption of a similar approach by social philosophers and economists. The belief developed that human actions are governed by immutable and uncontrollable natural laws the same as the physical universe. Consequently, the best results are obtained when human beings are allowed to act in accordance with these laws; disaster will result if artificial interference is resorted to. Thus, 19th century laissez-faire came to be liberalism developed in a mechanistic setting. What we need to do today is to retain liberalism but abandon its physical science connotations.[20] We must recognize the dignity of the individual and emphasize that he is the prime "end" of social activity. At the same time we must acknowledge that he is not the sole navigator of his barque; nor is he completely at the mercy of forces, unallayed by the possibility of group action.

The place of government is far different from that envisaged by 19th century social theory. In the first place, government today plays a major direct role in economic life. The enormous expenditures of modern bodies politic on the governing process, e.g., defense, education, public charities, harbor improvements, highways, conservation projects and so forth, have given the state a leading part in economic activity. It is not necessary to debate the defensible limits of these activities to concede that point.

In the second place, recent activities of government, especially those related to the war effort, have created maladjustments and distortions whose impact cannot be borne by individuals or enterprise acting alone. These burdens which have been assumed for the state as a whole must be accepted by the state. The resulting costs must be distributed in a way designed to preserve the structure and not be allowed to fall willy-nilly on hapless victims: otherwise chaos will ensue.

Thirdly, free enterprise, like free people, must operate under and according to the rules of the game. Competition is meaningless without rules and regulations and it is the responsibility of government to provide the framework, the objective of which is to make competition possible. The function of law under such circumstances is to give expression to generally accepted standards of social conduct with government as the umpire.

What the future holds is hidden behind the veil of mystery, but perhaps it is not too optimistic to assume that comparative

[19] Cf., George Terbough, "Post-war Surpluses and Shortages of Plant and Equipment," *American Economic Review*, (part 2, supp.) March, 1942, pp. 361-368. John D. Sumner, "The Effects of the War on Price Policies and Price Making," *American Economic Review*, (part 2, supp.) March, 1942, pp. 405-415. J. M. Clark, "The Theoretical Issues of Post-war Adjustment," *American Economic Review*, (part 2, supp.) March, 1942, pp. 1-12.

[20] Cf., A. P. Usher, "A Liberal Theory of Constructive Statecraft," *American Economic Review*, March, 1934, pp. 1-10, for an able presentation of the consistency of liberalism with positive social action. Cf., also the same author, "Laissez-Faire and the Rise of Liberalism," *Explorations in Economics*, (New York: McGraw-Hill, 1936) pp. 403-411.

peace will be our lot for some time to come when the present conflagration is ended. If this be so, and if we are to retain our free institutions, the greater part of our economic activity will have to be under the control of private enterprise. All-inclusive planning is out of order for such a structure but wise statesmanship is urgently needed. Coordinated government policy is an indispensable cornerstone but government economic activity must be scrutinized for impacts which may threaten or destroy private enterprise. This demands much greater attention to the implications of governmental action than we have given heretofore.

On the other side, equally grave responsibilities rest on the shoulders of private endeavor. Monopolistic practices, grab-bag politics, pork-barrel expenditures, spend-thrift vote-getting, special-interest legislation, power-seeking by government officials and private business alike, are dire threats to the things for which we are fighting.[21] If private business is to remain, individual entrepreneurs must demonstrate their ability to assume the accompanying responsibilities. They must be prepared to play the game, see that the rules make a good game possible and accept the score. No sympathy should be spent on those fair-weather contestants who grab all they can get now and then yell for public aid when readjustment sets in.

Freedom cannot be had gratis. Unless we are willing to make the sacrifices we think it is worth, we cannot retain it even if we win the war. If we delude ourselves into believing that peace will bring the millenium, if we delude ourselves into believing that current consumption backlogs will provide a base that can make economic reconstruction painless, we invite and deserve disaster. The road of freedom is not a cheap one but it is far cheaper than any other we have seen or can visualize.

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[21] Cf., S. H. Slichter, "The Conditions of Expansion," *American Economic Review*, (part 1) March, 1942, pp. 1-21; "Restraint of Trade," (Editorial) *The Economist*, London, June 6, 1942 pp. 781-2; M. W. Watkins, "Present Position and Prospects of Antitrust Policy," *American Economic Review*, (part 2, supp.) June, 1942, pp. 89-118.

II. Limitations of the Incremental Cost Patterns of Pricing

By EMERY TROXEL*

THE preceding article of this series describes the procedure and purpose of determining public utility prices in accordance with incremental costs.[1] The basic pricing rule is an equation of price and incremental cost; and the essential objective is utilization of utility plant with respect to demand for its use instead of, as is now the case, with respect to earnings. It should not be difficult to accept the admirable social purpose of full and efficient use of public utility resources. But approval of this objective is not enough to compel prescription of the incremental cost manner of pricing. There is the question of means of administering this pricing pattern, and more particularly of choosing a definition and of achieving measurement of incremental costs. There is the further and obvious fact that investors and private company managers in our society are not compelled to have any regard for fullness of resource use. Investors and management may have to accept the objective of full use of plant in the case of a short period version of such pricing, i.e., in a case where the utility plant—any plant and not necessarily the most efficient plant—is already in existence. But they can avoid future investments in the face of such a rule of price control. Thus, in addition to problems of administration, the incremental cost pattern of price control presents probable limitations of expansion of public utility plant and even of maintaining output of utility services.

Even if the effects of the incremental cost rule of pricing were altogether acceptable, there are some evident administrative troubles with this form of price control. An obvious feature of the administrative problem is the ability of a commission to gather suitable incremental cost information or, more basically, to formulate (or to rationalize sensibly) a good working concept of incremental cost. Proponents of such a form of price determination must be (and usually are) aware of the fact that the typical commissioner is hardly qualified to handle the economic concepts of the rule. And some attention must be given to the probable legal status of the plan.

Measurement of Incremental Cost

It is doubtless true that incremental cost data are not easily obtained. Certainly the blackboard drawings of economists with their long and smooth cost curves, are not very useful for the daily stint of fixing rates for utility companies. Nor is the accountant experienced in the measurement of incremental costs. Rather, the attention of the accountant generally is devoted to average or total cost studies wherein cost data are not usually related to considerable variations of output. Even cost accountants devote much of their effort to study of how overhead costs may be allocated to different units of output.

As a further practical fact, it is not

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[1] "Incremental Cost Determination of Utility Prices," *The Journal of Land & Public Utility Economics*, November, 1942, pp. 458-467.

clear how accountants could be expected to devise a system of accounts and an accounting procedure providing for the measurement of incremental costs. The prevailing accounting systems, so long in reaching their present condition, would have to be substantially amended or largely discarded. The incremental cost pattern of pricing, involving a revolutionary change in the concept of cost measurement, would unquestionably add to the current complexities of accountants' work. And, in contributing to the problems of accounting control, it would be an addition to the cost of regulation. If public utility firms object vigorously to maintenance of continuing inventories, they would surely complain even more noisily against some of the conceivable refinements of incremental cost measurement.

A more basic administrative question is the choice of a definition or concept of incremental cost. Hotelling and Wallace give no attention to the alternative meanings of this cost measure. And whatever its suitability as a rudimentary statement, the definition given in the preceding article may not be well chosen for the actual work of continuous regulation.[2] The often neglected dimension of time is alone enough to introduce a large number of alternative concepts of incremental cost. If a short period and practically "immediate" time choice is made, incremental costs may be taken to be the out-of-pocket expenditures incurred in enlarging the output from an unchanged amount of basic plant capacity. This view seems to be illustrated in the utility industries by the association of the idea of incremental cost with changes in expenditures—chiefly fuel and sometimes a little direct labor —respecting off-peak output.

[2] The distinction between expenditures "being incurred" and those which "have been incurred" is likely to break down under close, uncompromising examination.

Another choice may involve an association of incremental cost with all total costs except those costs being incurred for what may be called zero production. Yet, even the zero production costs vary with the time period connected with the real or imagined condition of zero production. For a fairly long period the return on the investment and the depreciation cost as a function of time and weather, but not as a function of plant use, represent most of the zero production costs.[3] In a rough way this seems to be the view of Hotelling who is opposed most of all to determination of railway rates, or other publicly controlled prices, with respect to the past investments in or some other values of railway plant. For shorter periods of time the zero production costs are larger, including some part or all of such costs as taxes, salaries and maintenance. Then, whatever the time dimension of the zero production base, there is the further problem of distributing some of the irregularly occurring but nevertheless positive production costs over the lumps of output with which they seem to be associated. Among these irregular but positive costs may be the investment costs of enlarging a public utility plant. These current investment cost expenditures may be treated as incremental costs of the output enlargements with which they are associated. If they are, we are confronted with the curious anomaly that costs of one generating unit may be associated with zero production costs whereas the costs of an identical but currently constructed generating unit are included among the

[3] For recent discussion of these terminological matters, see: Alfred C. Neal, "Marginal Cost and Dynamic Equilibrium of the Firm," *Journal of Political Economy*, February, 1942, pp. 47-53; G. D. A. MacDougall, "The Definition of Prime and Supplementary Costs," *Economic Journal*, September, 1936, pp. 443-61; Joe S. Bain, "Depression Pricing and the Depreciation Function," *Quarterly Journal of Economics*, August, 1937, pp. 705-15.

incremental costs. Certainly no one who tries to use this form of price control may expect an easy, standardized solution of the meaning and measurement of zero production costs and incremental costs.

Moreover, existence of many customer classifications, based apparently on differences in elasticity of demand,[4] is certain to harass anyone who attempts measurements of incremental costs. Accepting the existence of discriminatory buyer classifications, the regulator's main problem in this connection is the calculation of incremental cost data for each class of buyers. Beyond the matter of the time dimension, the cost measurements are made more arduous by the fact that incremental costs cannot be determined for each buyer group as though all other groups do not exist. All of the buyers must be viewed as a single consumption unit, and yet, paradoxically, each buyer group must be studied for its own peculiar incremental costs. It may take more than wisdom to compute unassailable incremental cost curves from these kinds of situations.

A further problem of incremental cost measurement is confronted if a firm has several plants of dissimilar efficiency. The incremental cost curve for the most efficient plant is below the incremental cost curves of the less efficient plants. If each plant is serving a distinctive group of buyers, a price may be determined for each plant according to the incremental costs of the plant. But it is more likely that the several plants with differences in efficiency are serving a single group of buyers, necessitating consideration of uniform pricing. This is a condition of operation of a super-power system. To achieve uniformity of pricing with respect to dissimilar plants, some averaged or arbitrary choice of the incremental costs for the several plants is a necessary step in price control. This is certainly no simple arithmetic problem. Yet, having chosen somehow the "average" incremental cost and having equated it to the price, utilization of the dissimilar plants is adjusted to the common price. Under this condition of pricing the most efficient plant is utilized more intensively than the less efficient one, and the several plants are used so that they have equal or nearly equal incremental costs at the several margins of their operations.

Yet, despite these numerous difficulties, it should not be concluded that no respectable measurements of incremental costs are altogether inconceivable. Though such data are not now available for utility companies and though an unassailable concept of incremental cost may not be readily formulated, some incremental cost data may be compiled. The problem is simplified when incremental costs are being sought for an existing plant as contrasted with alternative but not necessarily existent plants. Furthermore, it is convenient to undertake measurement of incremental costs with respect to lumps of output change rather than according to per-unit changes in output. This choice of lumpy increments in cost and output permits the regulator to avoid the theorist's conceptual but awkward or impossible per-unit procedure of measurement. But, when the discussion goes beyond the existing plant and as the short-period problem blends into long-period issues, determination of incremental costs becomes more troublesome.

The Administrator. Since the incremental cost method of pricing constitutes a major revision of regulatory procedure, some consideration must be given to the ability of the typical commission to effect

[4] Cf., Joan Robinson, *Economics of Imperfect Competition* (London: MacMillan, 1934), pp. 179-202; C. E. Troxel, "Class Prices for Gas and Electricity," *American Economic Review*, June, 1938, p. 275-89.

the change. The commission is being asked to abandon its traditional approach either of "showing respect" for past investments or of maintaining within limits the investment values of utility firms. Under a plan of incremental cost pricing a commission is expected, as a matter of the objectives of public control, to put utilization of plant ahead of the conventional determinations of permissible earnings. Elimination of the familiar determinative significance of depreciation and return provisions from the process of earnings regulation may be substantiated by economic reasoning, but the ability of a commission to comprehend and to administrate such a pattern of control cannot be disregarded. Ordinarily, commissioners are not versed in economic or social reasoning. They have not been dealing with the problem of full and efficient use of public utility resources. Admittedly, either the incremental cost pattern of price control must be scaled to the institutional and human conditions of regulation or it will remain, as it is now, a "paper" pattern of price control.

Confiscation of Property. Some pragmatic significance may be attached to the chance of judicial approval of this proposed innovation in pricing. In this connection the nature of the plant rental which is obtainable when prices are equated to incremental cost should be reconstructed, for its size determines the existence of confiscatory or unreasonable earnings according to the conventional legal concepts of these terms. In measuring the plant rental, it is taken for granted, of course, that the meaning and measurement of incremental costs are settled—that price is equated to incremental cost, and that the total revenue of the firm is the price as determined by incremental cost times the output. For a certain period of operations the rental may be defined as the total revenue of the firm less the total costs, exclusive of zero production costs. Or, as it was defined in the preceding article, it is the total revenue less total expenditures when the expenditures include costs such as depreciation costs, which are a function of plant use, but do not include expenditures for interest and dividends.[5] According to this concept, the plant rental does not determine, but rather is determined by the price.

The size of the plant rental is chiefly a function of the capacity of the existing plant and the demand of buyers. As the demand decreases or as the unused plant capacity, allowing for "necessary" excess capacity, increases, the plant rental declines, and, conversely, as the demand and used plant capacity increase, the plant rental increases. Being a residual sum of the pricing process, the rental may be more than sufficient at one time or place to cover what are the customary determinations of depreciation and return provisions, and in other instances it is not equal to the sum of these provisions. Use of plant and not "adequacy" of private firm earnings is the essential objective of this manner of pricing. On the other hand, however, the Supreme Court closely associates earnings determinations in confiscation cases with investors' expectations of earnings. The Court would be loathe to forsake its customary attention to the fair return and the depreciation provisions. Such a novel form of price control as the incremental cost pattern is not likely to be embraced by a Court which has been unable, so far, to return to the regulatory concept of the Munn case. In any event the Supreme Court is not likely to be impressed with the residual nature of the rental, calling it, perhaps, a whimsical consequence of an arbitrary exercise of control.

[5] Cf., Figure 1 of the previous article for a graphic illustration of measurement of the plant rental.

Some General Economic Considerations

For some persons there may be no point in further discussion of the incremental cost proposal. Inadequacies of incremental cost data, the difficulty of choosing a concept of incremental cost, a questionable legal status, and the mental distress of commissioners and judges are enough to prevent general use of this pricing procedure for utility services. Yet this form of pricing presents more than questions of administrative feasibility and a legal concept of confiscation. There are substantial considerations of the earnings, resource use, and other economic effects of application of the proposal. Even if the conclusions continue to be against introduction of this way of price control, we shall have shown how difficult it is to devise an alternative plan of control for the prevailing and frequently assailed one. Attention is given first to the short period operation of the proposal, wherein the contrasting conditions of an abundance and a scarcity of unused plant capacity are presented. As a means of simplifying the general reasoning under these conditions, it is assumed that a single or average price, instead of class prices, is being used.

Excess Capacity in the Short Period. Equation of prices and incremental costs is directed (repeating an observation) toward fullness of utilization of available plant capacity. Thus, discussion of the effect of this form of pricing is particularly pertinent in instances of much unused plant, i.e., much unused plant according to given (or prevailing) prices. A company may have a substantial amount of unused capacity because there has been a cyclical or secular decrease in the demand for its output. Or the unused capacity may be a consequence of an unwise investment decision. Prospective increases in demand may not have been realized, or competing firms or industries may have developed after the plant investments were made. Whatever the causal explanation of the unused means of production, this price-determination method offers the solution of lowered prices, controlled by increments in total costs, as a means of realizing more complete use of available plant.

But the objective of incremental cost pricing conflicts with the customary perspective of the private investor and the private firm. This pattern of pricing takes no account, unless it is distorted to do so, of the capital structure of a company. Nor is it arranged to provide for the return of an investment through provisions for depreciation. As long as zero production costs are not counted in incremental cost measurements, this plan of pricing is without regard for past capital commitments. Instead, the prices for utility services doubtless are lowered below conventionally determined price levels when considerable excess capacity exists, and, insofar as demand of many buyers is inelastic, the decline in a company's revenue may be great. A plant rental—a residual sum as previously described—may still be received, but when excess capacity is large there is little assurance of its being large enough to cover the customary return and depreciation provisions. (The relation of the size of these traditional provisions to the size of the rental depends, as described later, on the measures chosen for excess capacity and incremental cost.) Being designed to achieve enlargement of use of existing public utility resources, it is not associated with a program of maintenance of capital payments, retrievement of investments, or freedom from receiverships. As J. M. Clark has said in another connection, "A price which at all times cov-

ers only short-run marginal cost would lead to large operating deficits whenever demand is short of capacity, and would bankrupt most industries, no matter how shock-proof their capital structures."[6]

The private-firm measure of the minimum desirable earnings is such that, as long as operations are occurring under a condition of decreasing average cost, the firm has no liking for the incremental cost basis of pricing. Given a free managerial choice, a private firm, faced with a condition of excess plant capacity, may choose to contract output, increase prices, and maximize what we have termed the plant rental. Or, following the practice of accountancy, it may measure its "necessary" earnings with a view to covering some sort of depreciation and return provisions. In effect a private company has a minimum rental expectation, and this sum (treated as a cost by the company) plus current costs of plant use, gives a minimum total revenue expectation of the firm. An average cost curve, as distinguished from incremental cost curve, may serve as a measure of such a concept of minimum revenue expectations. Yet, when the price is equated to incremental cost at a point of output where such an average cost curve is decreasing, the minimum rental or revenue expectation obviously is not being realized. Thus, under conditions of excess plant capacity, the firm is eventually driven to contract the scale of its plant, and investors, who watch the current performance of industries, may very well consider such a pricing procedure a risk they cannot afford.

Much depends, however, on the measurement of what is and what is not excess capacity. In the previous article there was some comment on necessary or unavoidable excess capacity, the amount of "extra" plant needed to provide service in instances of peak loads or sudden or accelerated increases in demand. Hotelling does not mention it, and Wallace did little more than suggest consideration of it.[7] When a part of the overinvestment is considered unavoidable, some of what otherwise are counted as zero production costs are being included among the incremental costs. It is evident, therefore, that the size of the rental is dependent on how much is counted as necessary excess capacity. If enough is included, the company may not find the size of the rental altogether displeasing. But this sort of analysis does not solve the operational problem of measuring the "proper" amount of unavoidable overinvestment.

The problem of equating prices and incremental costs under circumstances of excessive plant capacity (and of scarcity of plant capacity as well) brings the discussion back to the question of measurement of incremental costs. One approach, as suggested beforehand, may be the one commonly noted in utility industries. In this case the out-of-pocket, immediate expenditures of enlarging output are used to measure incremental costs. Suppose that 2 mills per kilowatt hour is the incremental cost for a certain range of output enlargement of electricity. Admittedly, if 2 mills is to be the price for all output, there is a great immediate decline in revenue and there may be no plant rental at all. But such reasoning, while it illustrates a drastic and possible limit of such price control, fails to account for the reaction of buyers to such a price. At a price of 2 mills per kilowatt hour the demand may be far in excess of available plant capacity. To serve such buyers at this price, expenditures and incremental

[6] "Toward a Concept of Workable Competition," *American Economic Review*, June 1930, p. 250.

[7] "Kinds of Public Control to Replace or Supplement Antitrust Laws," *American Economic Review*, March, 1940 (supplement), p. 207.

costs would increase above, perhaps far above, the starting point of 2 mills. And, as the price increases, the plant rental increases. But, rather than go through this sequence of an extraordinary initial price reduction and of subsequent increases in price, it might be far better to start with a price equated to the *expected* incremental cost. For another approach, all costs except most or all of the zero production costs are included in the cost sums used to determine the shape and position of the incremental cost curve. Thus, the initial price and rental may be higher than in the former approach. Yet, even here it may be desirable to begin with a price which is equated to the prospective incremental costs occurring with enlargements of output.

Scarcity of Plant Capacity. When excess capacity is abundant, the plant rental received by a company is not sufficient to cover the depreciation or return provisions. The revenue expectations of the firm are not being realized. But there is little in the short period that the regulated firm is able to do about this effect of incremental cost pricing. The investment is sunk, and the firm must suffer by reason of its overinvestment. But, when unused plant capacity is scarce relative to the demand for its use, different results are obtained. Unfortunately, the whole case of underinvestment is neglected by Hotelling and Wallace. When underinvestment exists, the firm benefits by receiving a large plant rental.[8] Given a condition of increasing incremental cost, the company obtains a larger and larger total revenue as output is increased. The plant rental is increasing as output and price are increased. As these events occur, excess capacity is obviously being eliminated and the firm is being paid to eliminate it. Perhaps the company is receiving such a high rental for scarce utility plant that a fancy premium is being paid for plant use by the buyers subject to the price fixing rule. Indeed, if plant capacity relative to demand is scarce enough, the rental may be far in excess of the return and depreciation provisions determined in the prevailing manner of control. Now the "shoe is on the other foot."

The firm may often prefer to squeeze service out of the existing plant, defer possible sales, avoid its responsibility to serve all who come, and try to continue operations under a condition of increasing cost. The company benefits from a small and inefficient plant, and maximization of the plant rental is sought at the expense of deterioration of service standards. In these respects, therefore, an "inefficiency" rental is being awarded the firm. The answer to the question on underinvestment seems evident. Use of incremental costs to determine prices of utility service encourages underinvestment quite as much as it discourages overinvestment. It adds to the underinvestment condition already reflected in some utility industries by the hesitancy of management, usually technically or legally minded, to extend or to explore the limits of operations by means of price reductions.

Rental Regulation. Under conditions of scarcity of utility plant, the height of prices and the concomitant size of the plant rental invite the introduction of additional controls of prices. A further regulatory problem is created. An "inefficiency" rental may be of such size that regulatory attention is diverted from the objective of fullness of resource use and directed, just as it is in the conventional concept of regulatory objectives, toward reduction of "excessive" earnings. In this case the old pattern of regulatory control

[8] As in the case of a firm with excess capacity, measurement of the rental as well as operation of this pattern of pricing depends on the choice of a concept of incremental cost.

may return in a new guise. Now there is a problem of recapturing the "extra" portion of the plant rental. Perhaps the commission falls back on study of property valuations for measurement of return and depreciation provisions. At least the incremental cost basis of price determination cannot free a regulatory body forever from attention to earnings determinations, or even from property valuations in so far as a valuation sum presents at least a convenient determinant of permissible earnings.

Reduction of an excessive rental creates a peculiar problem for the regulator. The rental originally was high because plant capacity was notably scarce. On the one hand, the price is justified by the fact that it equates plant capacity and the demand for plant output, and on the other hand the price is not justified because an excessive rental is being received by the firm. One conclusion is apparent: specific regulation of the amount of the plant rental represents an abandonment or substantial modification of the incremental cost pattern of pricing. But this is not the end of trouble with control of the rental. If the price is reduced, buyers, seeking to purchase larger quantities of service than they do at the earlier and higher prices, find that the company's plant is incapable of serving them. This may lead to the kind of congestion, deplored by Hotelling, which follows from lowering passenger fares during holiday and summer vacation periods, the times when buyers, according to the incremental cost rule, should be paying more to allay congestion.

Buyer Considerations. Consumers of utility services are very much concerned about the frequency and amplitude of price change. Their regard for future price changes is commonly associated with the cost of equipment they must buy so that they may consume more utility service. In part, their short period inelasticity of demand for some utility services may be explained, probably, by the expensiveness of this equipment. And, if there is reason to expect further decreases in demand and lower prices under operation of this pricing procedure, the increases in purchases at lower prices may lag behind the price reductions.

There is a more specific reason for withholding possible price reductions under operation of the rule. If demand decreases drastically during a general business slump, the prescribed relation between demand and plant capacity results, perhaps, in an enormous reduction in prices. A notable slashing of electric rates, for instance, may encourage much greater consumption of electricity for industrial cooking and refrigeration uses. But as the demand increases with the disappearance of the depression and as the buyers more fully utilize the existing plant, prices are increased. Utility buyers resist all prices increases, and their resistance in this case is strengthened by recognition of the fact that low rates influenced the purchase of expensive equipment. This is a condition, recognized by Wallace,[9] warranting some restraint on full recognition of short-period demand changes. Unfortunately, the commissioner is left to his own devices of determining the limits and extent of price changes.

A significant point concerns the effect of different kinds of class-price revisions. If the condition is initially one of excess capacity, the "average" price is reduced. Which rates in a structure of rates should be reduced? When the objective is simply the one of enlarging use of an existing public utility plant, the price reductions should wholly or predominantly go to the buyer classes with the more elastic (or least inelastic) demand. This gives the

[9] Wallace, *op. cit.*, p. 207.

largest increment in plant output, unless the incremental costs of these classes of service are increasing so sharply that they compensate for differences in elasticity of demand.

It does not follow, however, that the most desirable social effects are realized by giving most of the rate reductions to the buyers with the most elastic demand. In the case of gas and electricity, for example, the industrial or large buyer probably has the most elastic (or least inelastic) demand.[10] If there is an unrelenting drive for output maximization, this type of buyer is given most or all of the price reductions. And the residential buyer, having a weaker financial and bargaining position, is compelled to accept higher rates from a regulatory framework designed more in his than in the industrialist's interest.

When, however, the company is operating under a condition of increasing cost and where an excessive rental is being distributed among buyers, the reasoning about rate changes with respect to buyer classes has a new dimension. Here large increases in output are not desirable in view of the scarcity of plant capacity. The buyers with the most inelastic demand may receive all of the rate reductions. Thus, price determination in instances of a sharply rising incremental cost curve permits more nearly uniform rates.

Long Period Problem. Even if the incremental cost pattern of pricing can be made to work well in the short period, the real test of its efficacy comes when there must be regard for the amount of utility plant to be sustained within the limits of commission-determined prices and earnings. It is generally admitted that the basic objective of the proposed rule is fullness of use of existing resources, not provision for a certain amount of revenue or profit. When the existing plant is not assumed to be given, imposition on private utility firms of the short period concept of this pricing rule puts a most apparent limitation on the flow of private investment into utility operations. Either the rule of pricing, as conceived for existing plants, is revised to recognize the investment dimension of the pricing problem, or it may be condemned ultimately by both sellers and buyers.

In the longer period, consequently, the basic concept of such pricing with respect to fullness of resource use must be revised so that respect is shown for the private firm's interest in revenue and profits. Perhaps the revision is broad enough to eliminate the essence of the incremental cost pattern as previously described; the patient is cured by killing him. This seems to be true if the social objectives of maximum consumption and fullness of resource use are subordinated to or become a function of the private investor's attention to the well-being of his enterprise. Yet there is little that a commission can do but give attention to the perspective of the investor. The regulator must reckon with the fact that investors still are free in our society to choose when and how much they will invest in utility plant. Utilization of public utility plant is realized in the longer period by having a regard for the earnings expectations of investors.

The regulatory problem of using the incremental cost rule, through an extended period of time, may be subdivided according to the existence of conditions of overinvestment or underinvestment When overinvestment exists, a slight excess only of short period revenue over total variable costs may not immediately affect the established scale of plant. The owners are sorrowfully willing to retrieve even a small part of their investment. But

[10] Troxel, *op. cit.*, pp. 275-8.

such returns do not suffice forever, and ultimately the firm scales down its plant. Removal of underinvestment, however, seems a more difficult task. In the instance of overinvestment the firm has no choice but to accept the short period prices or to abandon operations. But the underinvested firm may ignore pleas for a larger plant and more service, choosing to keep its profitable pricing condition. Introduction of the investment dimension into the discussion presents, consequently, a regulatory problem (or choice) of the "proper" amount and rate of investment under varied conditions of public utility operation. This problem, one must admit, has not received very much refined examination by commissions in the past. Yet any amendment of the strictly short time view of the incremental cost proposal, to make it fit long period conditions of private investment, requires consideration of this neglected aspect of utility regulation. In each instance of such pricing there is presumably a commission view about maintaining some "chosen" scale of plant operation. Apparently a commission, working with these problems, must resort to some practical arbitrariness.

The Underinvestment Case. When prices are determined by incremental costs, there is an inducement, as we have seen, to restrict the size of the plant and receive a scarcity rental for such foresight. New investment is, consequently, a function of the existing (or prospective) plant rental. The firm chooses to invest or reinvest if it foresees an increment in earnings—an increment in the plant rental. As an additional consideration of investment policy, the firm speculates about the probable time and intensity of commission regulation of the plant rental. Absence of restrictive control of the rental may not serve to enlarge the private plant. Yet careful restriction of the size of the rental, a contravention of strict use of the incremental cost form of pricing, can scarcely provide an inducement to invest.

Revenue and expenditure expectations of investors must be given a particular kind of consideration, for instance, in the event of technological changes. As I have pointed out elsewhere,[11] a necessary condition of installation of the improvement may be a sufficiency of allowable earnings to permit amortization of the remaining but retrievable investment in the old equipment. Proprietors do not willingly or knowingly reduce their net returns to effect improvements. Consequently, if plant improvements as well as enlargements are to be obtained, it will be necessary to equate prices to something more than short period increments in costs. A part of the zero production costs, a part of the depreciation cost and return provision not ordinarily considered functions of output, will be determinative of prices and earnings.

It is not clear how a commission may devise a workable reconciliation of (1) a long period need for enlargement of plant with (2) continued use of the incremental cost pattern of pricing. Nor do Hotelling and Wallace offer a solution. A far from satisfactory approach to a solution may take the form of computing, or rather trying to compute an optimum scale of plant capacity. To meet the two basic conditions, this optimum plant must be one where, if price and incremental cost are equated, the resulting earnings of the firm are just sufficient to induce the total chosen investment in the selected plant. Such a choice is more likely to be a matter of chance than of skill. There are so many possible uncertainties in these calculations: investors' earnings expectations are

[11] "Obsolescence of Public Utility Property," *Journal of Land & Public Utility Economics*, August, 1938, pp. 266-72.

not clearly known, costs of alternative scales and kinds of plant are not always common knowledge, demand and technical conditions are subject to sudden changes, and so on. In desperation, regulators may conclude that past investments and expenditures provide a sufficient empirical basis for determining these long period "adjustments" of the pattern of pricing. If they do, they may be reverting to a procedure involving something like the conventional determinations of return and depreciation provisions. And, regardless of the modifications of the pricing policy, investment and reinvestment decisions are still subject to managerial discretion.

Excessive Plant. In an overinvestment situation the plant rental, as determined by an equation of price and incremental cost, is considered insufficient by the firm to justify indefinite continuance of the existing scale of utility operations. Eventually the firm shifts to a new kind or scale of plant. Meanwhile, the firm is not privileged to fix a price high enough to provide for maintenance of earnings expectations for the whole of an unnecessarily large plant.

We should notice, however, that commissions have always had the regulatory means of preventing payments for the use of excessive plant. The existing framework of utility regulation permits regulators to omit consideration for all but used and useful property. Rather than undertake an interpretation of the used and useful concept in terms of efficiency of use of resources, commissions seem inclined to view most plants as optimum choices of intelligent investors. Thus, possessing the necessary statutory authority, commissions in this connection appear to be chiefly in need of more ability, counseling and research.

When overinvestment exists and when there is short period pricing according to incremental costs, the regulator cannot avoid consideration of inducements for reinvestment. Such reinvestment, if it occurs, is in an alternative and presumably more efficient plant, not in a duplicate of the existing and excessive plant. Giving attention to the transition to a smaller and more efficient plant, the commission cannot avoid an examination of the nature of the ultimate plant. Again the commission probably projects its thinking in terms of some "chosen" scale or scales of plant operation. The firm, knowing the prospect of plant rental enlargement if plant capacity is restricted, is encouraged to be conservative in its measurement of prospective demand and cost conditions. The commission, on the contrary, seeks to prevent the substitution of an underinvestment for an overinvestment condition. The commission, consequently, may find itself almost as much concerned with choices of the kind, size, and location of public utility plant as the investor is. But again the commission's attempt to control the scale and kind of plant may fail, for the management of the company is beyond regulatory control when they make the most of its investment decisions.

Summation

Incremental cost determination of utility prices seems much more suitable in the short than in the long period. In the shorter period this method of pricing, devoted to the purpose of achieving an enlargement of consumption, may represent an improvement of existing means of control. In the longer period the essential problem is the more difficult one of fitting the pricing procedure, by means of control of investment, to achievement of maximum consumption of utility service through time. There is the chance that

this method of pricing, if used regularly, may eventually restrict the size of utility plants.

It is evident that the pricing rule is most effective when plant is excessive. Critics should not be unmindful of the merit of a scheme for forcing a contraction of an excessive plant. In the prevailing form of utility earnings and price control, excessiveness of plant capacity may be chronic. As long as the excess capacity exists, there is the danger that consumers are compelled to pay the price of its existence. In defense of the incremental cost pattern of pricing, it seems equitable to assess all (or most) of the cost of excess plant capacity to investors instead of buyers. For the most part, excess capacity is the result of investor rather than consumer decisions. Still, a surfeit of plant can scarcely be altered skillfully by a pricing technique involving an excellent chance for substitution of an underinvestment for an overinvestment condition.

It seems correct to conclude that the incremental cost proposal is unworkable as a means of price control of privately owned utility companies. As long as considerable freedom to invest exists, this form of price control is conducive to inefficient use of resources, for it encourages intensified use of an existing plant and discourages plant expansion and improvement. Attempts to amend the basic rule to achieve a certain rate of investment seem to result in abandonment rather than retention of the rule. Yet it may be proposed for very commendable reasons. There is social merit in a plan providing for elimination of the inefficiency of plant use. The probability that the incremental cost principle would fail to work in instances of private ownership of utilities is, consequently, a social misfortune. Rightly understood, much of this discussion becomes another argument for public ownership of public utility plants. Thus, in the next and last article of this series a discussion is presented on incremental cost pricing of the output of publicly owned utility plants.

Tenure Arrangements in Oklahoma Oil Fields[1]

By R. D. DAVIDSON and KENNETH WERNIMONT*

THE English jurist, Blackstone, spoke of land as including "not only the face of the earth, but everything under it, or over it." Oklahoma is one of several states where this concept of property has led to a multitude of problems because of conflicts between surface and subsurface rights.

Historically, the use of the surface came first. Original Oklahomans — the Indian tribes that ranged hills and prairies in quest of buffalo and other game—depended wholly upon the "face of the earth" for a livelihood. Likewise, the pioneers who participated in the great "races" at the opening of the Indian territories were searching for agricultural riches. They wanted land upon which to graze their cattle and fields in which to grow corn, cotton and other agricultural commodities. Neither the riches that lay beneath the earth's surface nor the use of the air above were matters of great concern to them.

Today, in many of the counties where land was so keenly sought for agriculture a scant fifty to seventy-five years ago, the miracle of oil and gas has shifted the value emphasis to subsurface resources. The effects have been noticeable wherever oil wells have been drilled, whether the wells turned out to be gushers or dry holes. Land tenure arrangements have undergone drastic change; farm-management systems have been modified, or agricultural operations have been suspended altogether during the period of development and production. The communities themselves have often been considerably altered by the sudden influx of oil field workers while local governments have been forced to expand public services without regard to the inevitable decline in future income. In many of the older fields, exhaustion of the oil supply has left fields ruined by the overflow of salt water and oil waste, communities of semi-stranded subsistence farmers and a burden of local government debt out of proportion to remaining income resources.

Perhaps even more consequential than the direct effects of actual oil and gas operations are indirect influences which spread beyond the confines of producing fields. Speculation in mineral rights may increase the cost of farming through higher land values, higher taxes, a scarcity of farms available to tenants or bona-fide farm purchasers and through land title complications that arise out of an overabundance of transactions. If oil is eventually produced, these higher costs may be offset. Otherwise, agriculture must absorb them as a party to the speculation.

From the standpoint of maintaining agricultural resources, it is fortunate that up to the present most of the land seriously exploited by the oil industry has been located in sections of the state that are characterized by rough terrain and relatively poor soils.

It is fortunate too that the influences of maturity in the oil and gas industry have brought about a better appreciation of

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[1] This article is a further report on a study conducted cooperatively with the Oklahoma Agricultural Experiment Station. Two previous papers have appeared in this *Journal*: Cf., James Salisbury, Jr. and Leonard A. Salter, Jr., "Subsurface and Surface Land Economics," (two parts) August, 1941, pp. 270-279 and November, 1941, pp. 385-393.

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conservation and of the effects of ill-advised "booms" on people and local governments. The practical results of this better appreciation have been facilitated by modern modes of transportation and by improvement in production methods, including more economical ways of disposing of salt water and waste materials, plugging old wells and casing new ones to prevent pollution of surface water, and the like.

In spite of these mitigating factors there is more and more invasion of the good farming districts by drilling rigs and other signs of competition between oil and agriculture. Agriculture, after all, is still one of Oklahoma's major industries. In 1940, roughly 180,000 farms produced agricultural commodities which were valued at more than $200,000,000. This substantial sum cannot, of course, compete in quantity with annual proceeds from petroleum products extracted from the subsurface in an average year. That figure is nearly double the average agricultural income. Nor is there any indication that oil and gas have reached peak production. As a matter of fact, it is estimated that only 1.6 per cent of Oklahoma's potential oil and gas land has been drilled and operated. All told, when actual development and the influences of prospective development are considered, an estimated 87 per cent of the lands in the state may eventually be affected by the quest for wealth derived from the subsurface.[2]

These figures give some indication of the area likely to be affected by the varying degrees of conflict between the petroleum and agricultural industries. In the final analysis, both industries are engaged in the development of highly valuable resources and each has its appropriate place in the total economy. The ideal arrangement is one which permits simultaneous surface and subsurface operations within the limits of efficiency but which will leave surface usefulness comparatively intact when oil and gas are exhausted. A prime requisite for simultaneous use is a smooth-working relationship among surface and subsurface owners and operators. Obstacles to this smooth-working relationship stem from misunderstandings of and imperfections in: (1) the conveyances by means of which property in the subsurface is transferred from one person to another; and (2) the methods of adjusting conflicts arising between surface and subsurface landowners and operators.

Separation of Surface and Subsurface Property Rights

There are many variations in the forms used in transferring portions of the real property "bundle of rights" from one party to another. Three major classes of instruments, defined in terms of real property common law, have been adapted for the use of the petroleum industry during the last forty or fifty years. These include mineral deeds which sever the subsurface estate from the surface estate; mineral leases which grant a form of tenancy in the subsurface estate for the purpose of exploring for, and producing oil and gas; and royalty conveyances which transfer a share in the proceeds of production without any accompanying responsibility for either the actual operation or the land itself.

The legal concept of ownership in oil and gas has had a checkered career.[3] The first reported court decision dealing with

[2] James Salisbury, Jr. and Loris A. Parcher, "Agricultural and Other Surface Land Uses as Influenced by Mineral Development," *Current Farm Economics*, Okla. Agr. Expt. Sta., February, 1941.

[3] Maurice H. Merrill, "The Evolution of Oil and Gas Law," *Mississippi Law Journal*, Vol. XIII, No. 3, pp. 281-91.

these rather peculiar substances declared them to be "not necessary nor indeed suitable for the common use of man."[4] However, as scientific achievement "made them suitable for the common use of man," the courts were hard pressed to determine the nature of a right in oil and gas—particularly oil and gas "in place" below the surface.

From the beginning, it was plain that oil and gas had some of the characteristics of solid minerals and early decisions were quick to recognize them. "Oil is a mineral, and being a mineral, is a part of the realty. It is like coal, or any other mineral product, which *in situ* forms part of the land."[5] Being recognized as a part of the land—as defined by Blackstone—the formalities of transferring rights in oil and gas quickly came to be governed by the rules for conveying realty.

The analogy to solid minerals was, however, imperfect as a basis for the application of real property transfer rules. One of the attributes of fee simple ownership in real property is the right of the owner to full possession of the property as against any trespasser. This attribute is clearly applicable in the case of solid minerals for their very solidity makes it possible to determine property boundary lines above and below the surface.

Oil and gas, on the other hand, are not fixed in the earth but are contained in subsurface structural traps or reservoirs. If the reservoir is penetrated and oil and gas are removed or permitted to escape, a low pressure area is created and migration occurs from other parts of the reservoir to the low-pressure area until the pressure is equalized. Consequently, drainage from under one piece of land can take place by means of wells located on another piece of land. As no trespass is committed upon the first property and as the oil and gas cannot be specifically identified as to source, the owner of the first property has no way of obtaining relief except by drilling offset wells on his own land.[6]

However, this conclusion is not in accord with the law of solid minerals; and logic demanded some modification of the simple "mineral" analogy. The Pennsylvania Supreme Court hit upon the idea that oil and gas are to be compared to water and that all three bear a resemblance to wild animals, making them "minerals *ferae naturae*." Said this court, "In common with animals and unlike other minerals, they have the power and the tendency to escape without the volition of the owner."[7] "They belong to the owner of the land, and are a part of it, so long as they are on or in it, and are subject to his control; but when they escape and go into other land, or come under another's control,, the title of the former owner is gone."[8] While the *ferae naturae* theory was first announced by the Pennsylvania Court, the doctrine was never really adopted in that state.

The semi-migratory character of oil and gas and the juristic analogies drawn from the physical facts about oil and gas as they have become better understood through experience provide the primary basis for decisions by Oklahoma courts

[4] *Hail* v. *Reed*, 15 B. Mon. 479 (Ky. 1854).

[5] *Stoughton's Appeal*, 88 Pa. 198 (1879).

[6] Summers, *Law of Oil and Gas*, per. Ed. (Kansas City: Vernon, 1938), Secs. 4 & 62. The whole concept of property in minerals has been treated at length in this work. For an especially good statement on subsurface land tenure arrangements in Oklahoma, see Glassmire, *Oil and Gas Leases and Royalties* (St. Louis: Thomas, 1938). Thornton-Willis, *Oil and Gas*, 5th Ed. (1932), Sections 1to 32, contains an interesting historical sketch of the petroleum industry and a summary of physical facts important in determining the law of oil and gas.

[7] *Westmoreland and Cambria Natural Gas Co.* v. *DeWitt*, 18 A. 724, 130 Pa. 235, 5 L. R.A. 731 (1889).

[8] *Brown* v. *Vandergrift*, 80 Pa. 147.

holding that oil and gas cannot be owned in place as a part of the land and therefore cannot be bought and sold, or subdivided and apportioned, on a geographic basis except as an accessory to the land itself.[9] They are not subject to ownership until produced, or "captured," and reduced to possession as personal property.[10] The fee-simple landowner does have the exclusive right, however, to use the surface of his property, and as the oil and gas cannot be produced without using the surface, he has the exclusive right to explore for and "capture" oil and gas under his land. This is a valuable property right which may be transferred.[11] Thus, when Farmer X conveys all right, title and interest in oil and gas and other minerals beneath his land to Mr. Y, together with the right of ingress and egress, he has accomplished a virtual separation of ownership in the valuable resources below the ground from his ownership of the surface. It matters very little whether Y actually owns a specific gallon of crude oil somewhere in the earth—for he has the exclusive right to search for it—or another gallon that comes in from across the line; he has the right to bring both to the surface where they become his personal property.

Mineral Deeds. When Farmer X sold the minerals beneath his land to Mr. Y, he used one of the commonest instruments developed by the industry—the mineral deed. The phrases used in a mineral deed to convey the seller's rights to the buyer are similar in intent but not identical with the usual phrases in a warranty deed, an instrument familiar to all who deal in real property. The warranty deed, unless qualified, conveys a fee simple title to the land in question for all time to come. A mineral deed makes the same permanent disposition of the minerals beneath the surface.

An estate in minerals, essentially the same as that ordinarily conveyed under a mineral deed, may be created through exception or reservation in a warranty deed. If X, instead of selling his mineral rights to Y, were to decide to sell Z the land and keep the minerals himself, he would use an ordinary warranty deed with clauses reserving the mineral rights or excepting them from the conveyance.[12]

Widespread use of the mineral deed and warranty deed with exceptions or reser-

[9] *Rich* v. *Doneghey*, 177 P. 86, 71 Okla. 204, (1918). Authorities have divided the theories of ownership of minerals "in place" as applied by the courts of the several oil producing states into three groups: "ownership", "qualified ownership" and "non-ownership." Oklahoma is one of the so-called "non-ownership" states. The practical differences among these three views are not too great although the non-ownership theory is more in keeping with the fugacious character of oil and gas.

[10] *Kolachny* v. *Galbreath*, et al., 110 P. 902, 26 Okl. 772. 38 LRA (NS) 451 (1910).

[11] It is said to be a "profit a prendre" or an interest in real property in the nature of an incorporeal hereditament. In 1 Thompson, *Commentaries on the Modern Law of Real Property* (Perm. ed.) Section 260, a profit a prendre is defined as "a right to take from the land of another a part of the soil, or something which is the produce of the soil." An incorporeal hereditament is any form of property which can be inherited or sold but which is neither tangible nor visible. As here used, these two terms indicate a property right in land but one which would not for most purposes be considered as actual ownership of any physical part of the land. (See Black's and Bouvier's law dictionaries.)

[12] There are some technical distinctions between a reservation and an exception, and the clauses used for each are different. In 6 Thompson, *op. cit.*, Sec. 3458, the two terms are defined as follows: "An exception is the withholding from the operation of the deed of something existent which otherwise the deed would pass to the grantee. A reservation is the creation in favor of the grantor of a right which previously has had no independent existence before the grant and which in effect narrows or limits or cuts down and lessens that which the grantee otherwise would take." For instance, when X conveys a 1,000-acre tract but wishes to withhold a certain 5-acre parcel from that conveyance, he excepts the 5 acres by a provision in the deed. But if he wishes to convey the 1,000-acre tract and create a right-of-way in favor of himself, he reserves such a right-of-way by a provision in the deed. The distinction is that the 5-acre parcel existed before the grant while the right-of-way did not exist before the grant.

vations has not been made without creating problems and conflicts in the working relationship between surface and subsurface landowners. Often these problems arise because of some legal technicality in defining the grant from seller to buyer. This is illustrated by a long-standing argument over the meaning of the word *minerals*. One of the pitfalls into which unwary buyers and sellers have sometimes fallen is the failure to make clear, by the terms of the deed, what it was they intended to convey—that is, solid minerals in place (such as coal or zinc) or the valuable right to explore for and capture fugacious minerals (oil and gas). The term *minerals* has ordinarily been held to include oil and gas, but the term *oil and gas* certainly would not include coal or zinc.[13]

So far it has been assumed that Y purchased the entire subsurface estate. He might with equal facility purchase only a portion of the mineral rights—an undivided one-half interest, for example. In that case he would become a tenant in common with X, in the subsurface. He then has the option of joining with X in the negotiation of subsequent oil and gas leases or of entering into a separate lease without X's consent. Lessees of both X and Y would be entitled to enter upon the land for the purpose of developing oil or gas, but each would be under obligation to account to the owner of the remaining interest, or to that owner's lessee, for a pro rata share of the net profits which are determined by deducting from the market value of the oil or gas produced the necessary expense of developing, extracting and marketing.[14]

If both X and Y make subsequent divisions of their co-tenancy, and if their neighbors do likewise, the task of blocking out areas for leasing becomes increasingly difficult because of the necessity of negotiating with large numbers of widely scattered lessors. There appears to be no well-defined procedure in Oklahoma for what might be termed *partitioning* of subsurface ownership through a judicial proceeding such as is followed in dividing up the rights of surface land ownership. Most operating oil and gas companies will not take a lease on a piece of land unless all the co-tenants sign. If one of them happens to be stubborn or inclined to press an advantage for profit, he may work a considerable hardship on his fellow co-tenants. The solution to this problem is certainly not an easy one. From the point of view of both law and justice, any kind of statutory provision to force the breaking up of a subsurface estate under a particular tract of land on an equitable basis so that leases can be entered into by some of the owners without disturbing the rights of others would necessarily be extremely complicated. Nevertheless, this again is one of the numerous problems which contribute to a lack of harmony in the working relationships of surface and subsurface owners.[15]

[13] In the case of *Mullendore* v. *Minnehoma Oil Co.*, 114 Okl. 251 (1926), the court even went so far as to say that *oil and gas* did not include casinghead gas.

[14] *Riddle* v. *Ellis*, 281 P. 286, 139 Okl. 68 (1929); *Prairie Oil and Gas Co.* v. *Allen*, 2 F. (2d) 566, 40 A.L.R. 1389 (1924); *Earp* v. *Mid-Continent Petroleum Co.*, 27 P.(2d) 855, 167 Okl. 86, 91 A.L.R. 188 (1933).

[15] The relations among co-tenants of oil and gas all over the United States, including Oklahoma, have been affected by Amendment No. 1 to Conservation Order M-68 [7 Fed. Reg. 281 (1942)], by which the War Production Board forbade the use of materials for development of oil or gas unless there has been a consolidation of all separate property interests within a 40-acre area surrounding each oil well or within a 640-acre area surrounding each gas well. In this way, co-tenants of oil and gas underlying parcels smaller than 40 acres in the case of oil and 640 acres in the case of gas are prevented from developing their interests unless they enter into a consolidation agreement, which normally presupposes the consent of all co-tenants to a particular development.

Of all the problems which arise from the permanent splitting of ownership through use of the instruments here under consideration, the one which seems to raise its head most persistently is that of clouded titles. Thousands of people scattered throughout the world have come into possession of a small portion of the subsurface rights under some tract of Oklahoma land. Deeds are on record where these interests have been subdivided into fractions as small as one twelve-thousandth of the ordinary lessor's one-eighth royalty interest.[16] Resulting title clearance and abstract problems are not limited to areas of actual oil and gas production. They extend to all areas in which there has been speculation associated with prospective development. Reconnaissance surveys in Oklahoma indicate that abstract and title clearance are frequently an effective barrier to readjustment in land tenure arrangements to meet the needs of surface uses after oil booms have subsided or oil- and gas-producing enterprises have been abandoned.[17] In addition to the abstracting and title-clearing problem, the very diffusion of property rights in the land results in such widespread complications of interest and such lack of specific responsibility for the preservation and current maintenance of agricultural values that the conservation problem also becomes serious in some localities.

For all these reasons it is desirable that something be done to simplify the land-title pattern wherever there has been or is likely to be extensive separation of mineral rights from surface rights. The purchaser, under a mineral deed grant, is interested in two possibilities. First of all, he may expect that oil will be produced, either through his own efforts or through the efforts of an oil and gas lessee, in which case anticipated profits will come from a share in production. Alternatively, his interest may not be in production at all but rather in reselling fractional parts of the original right to speculators and investors. Ordinarily, if a test-well is drilled on a tract of land and it proves to be a dry hole, property values in the subsurface drop off abruptly. On the other hand, the investment in subsurface rights may be great and the investor cannot afford to postpone a testing of the area an indefinite period of years, for he receives no income from the subsurface property right except through the production of oil and gas.

In view of these alternative purchaser interests, perpetual separation of oil and gas rights from surface rights really serves no essential function. Because of the title complications that result, some statutory mandate should be devised for complete substitution of reversionary deeds or a blanket limitation on the term of years for the separate ownership of subsurface interests with the *minerals* reverting to the surface owner, whoever he may be, at the expiration of the term. The term of years would be extended automatically for such time as there was actual production of oil and gas.

As most of the damage from perpetual mineral conveyances has unfortunately become a matter of history, any completely effective legislation for resolving the title conundrum must find and take advantage of some excuse for wiping out perpetual rights that are no longer current. This will require careful consideration of constitutional protection for the validity of contracts. At the same time the rights of persons who have a real, current interest in a perpetual subsurface grant must not be unfairly cut off. One method frequently suggested is the separate taxation of min-

[16] Glassmire, *op. cit.*, Sec. 83.

[17] Unpublished material collected by the Okla. Agr. Expt. Sta.

eral rights whenever surface and subsurface estates have been separated with application of standard tax-reversion procedures in cases of delinquency. Although this scheme has not as yet been given a practical test in any of the oil-producing states, it does seem logical that it could be used to wipe out a large number of title clouds, and it would have the residual advantage of returning ownership of mineral rights to the state without seriously jeopardizing any bona fide interest. Only when a separation of subsurface rights ceased to be of sufficient worth to warrant the inconvenience and cost of paying the tax would there be a tax lien foreclosure.

Mineral Leases. Oil and gas leases define the relationships of operating companies and landowners in nearly all of the producing fields of Oklahoma. Very few landowners have found it possible or advantageous to produce oil and gas on their own lands. Even if the landowner is sure of obtaining oil and gas on his land, the initial cost of drilling and equipping the wells and establishing market outlets ordinarily prevents him from carrying on the enterprise.[18] On the other hand, operating companies as a rule have not found it to their advantage to acquire title to the land upon which they locate their wells and equipment.

[18] A total of 157,250 wells have been drilled in Oklahoma at an estimated cost of $2,900,000,000. The wells that have been drilled include 109,300 oil wells, 12,400 gas wells and 35,550 dry holes. The average cost of drilling the wells was roughly $19,000 each, but many of the wells included in this average were shallow wells, a large number of which were less than 1,000 feet in depth. The costs of drilling wells in the Seminole and Oklahoma City fields are said to vary, as a rule, between $35,000 and $50,000, but costs of $75,000 to $100,000 are not uncommon. In addition to the drilling costs, if production is found, there is also the initial cost of equipping the wells and providing storage facilities and market outlets. Roughly, $200,000,000 have been expended for approximately 22,000 miles of pipe lines, and $75,000,000 have been invested in storage facilities in Oklahoma oil fields.

Similarly, the cost to operating oil companies of acquiring title to land is prohibitive in general for the reason that it is impossible to determine without drilling whether the land contains oil and gas. Once production is proved and the rate is determined, the oil companies have little to gain by acquiring title. The full value of the royalty interest in the minerals would be capitalized in the land values.

The ordinary oil and gas lease is drawn for a definite term of years, usually five, subject to the provision that the lessee will either start drilling within one year or pay an annual rental, usually one dollar per acre. If oil and gas are discovered, however, the lease continues in effect so long as there is production in paying quantities. These so-called rental payments are made by the lessee as compensation to the lessor for delay in receiving contemplated royalties. Royalties, usually one-eighth of gross production, are a share in the product which goes to the landowner or the lessor for the privilege of minimum surface land use needed in connection with the oil and gas enterprise. Most leases provide that the operating company must establish and maintain market outlets, paying the lessor a share of the gross value of oil and gas sold; but some leases give the lessor the option of providing his own storage facilities and taking a share of the product.

In addition to rental and royalty payments it is customary, whenever there is strong competition in obtaining leases, to pay the landowner or the lessor a bonus. Negotiations with reference to bonuses are on a personal basis and the contract contains no reference to it, nor is the lease affected in any way by it. In practice these bonuses are used as a means of adjusting total consideration paid to the landowner in terms of the more or less uniform rental rates of one to five dollars per acre

to allow for differences in the estimated values of mineral leases on the various tracts of land within the prospective field.

The ordinary mineral lease initially vests in the lessee the mere right to go upon the land and explore for oil and gas or other minerals. This right may be continued at the option of the lessee for the definite term specified in the lease by carrying on exploratory activities or by paying delay rentals. If oil and gas are discovered, however, the lease matures into a property interest of definite duration, and the lessee is entitled to use as much of the surface of the land as may be necessary in carrying on production operations. Operations may then be continued as long as the oil and gas can be produced in paying quantities.

On the other hand, if a test well turns out to be a dry hole, rental payments must be resumed to hold the lease in effect for the agreed period. If there is no production, the ordinary lease expires automatically at the end of the lease period, and failure to drill or pay delay rentals results in the same automatic termination unless the lessor, by subsequent acceptance of rentals, elects to continue it in force.[19]

Royalty Conveyances or Assignments. A royalty conveyance or assignment is simply a transfer of the right to participate in proceeds accruing under an existing lease. The covenants do not run with the land but are binding between the parties as an interest in the land of the grantor.

In producing oil fields this type of conveyance can be used to transfer speculative and investment interests without permanently clouding land titles. Furthermore, it gives the investor a right to share in oil and gas production with a minimum of responsibility either for the land or for the details of the operation. Both of these characteristics commend it to more widespread use. There is some danger, however, that the transaction may be confused with a conveyance by mineral deed because of the custom of calling mineral deeds by the name *royalty deeds*. Thus, the recipient of a royalty conveyance or assignment might be mistakenly under the impression that he had become the owner of a perpetual property right in the subsurface.[20]

Public and Indian Lands. Important customs and rules of law concerning separation of surface and subsurface property rights have resulted from experience in dealing with public lands — particularly Indian lands. Administration of the Osage Indian lands is the most unusual example. The lands now comprising Osage County were purchased by the federal government from the Cherokees in 1866. The surface of the land was allotted by Act of Congress, June 28, 1906, but title to minerals remains vested in the tribe. The mineral rights are held in trust for the enrolled members of the Osage Nation, under management of the Tribal Council and the Osage Agent, acting for the Secretary of the Interior. Proceeds from oil and gas production are distributed according to *headrights*, thus making Osage County a unique cooperative pool. It is estimated that each member or *headright* of the tribe has received more than $100,000 since production of oil started.[21]

This experience may suggest beneficial possibilities for both public and private mineral land management. First of all, it demonstrates the desirability of retaining for the public--whether represented by state or local government—part or all of the minerals underlying public lands at

[19] *Newman* v. *Klingel*, 272 p. 401, 133 Okla. 286 (1929).

[20] Technically, the term *royalty deed* is a misnomer. Cf., Glassmire, *op. cit.*, Sec. 21.

[21] Glassmire, *op. cit.*, Sections 70 to 77.

such time as surface rights are sold. Otherwise, large revenue-earning resources may come to benefit a few individuals rather than relieve the burdens of the general taxpayer.

A second possible application of the Osage experience is the landowner pooling idea. A considerable proportion of the individual surface allottees found their lands untouched by oil production. Consequently, had their land titles covered both surface and subsurface, individual leases for these unfortunate allottees would have netted them nothing from oil and gas. Under the existing arrangement, however, they all share in the benefits. It is true that some small number of allottees suffered from an interference with their surface rights, but they received or were entitled to receive some special compensation for actual damage done to the surface. Furthermore, although they would have gained more without the enforced pooling arrangement, such contingencies are analagous to well-known gambling advantages and disadvantages. The fact remains that one way for small landowners to be sure of some income from oil discovered in their community is to pool their mineral rights with those of their neighbors.[22]

Little more need here be said concerning Indian lands except that all Osage leases and lessees on lands owned by *restricted* members of other tribes are administered by the Indian agents under the direction of the U. S. Department of the Interior. Mineral leases are offered at periodic public auctions and sold to the highest bidder. Not infrequently, the successful bidders also get the agricultural leases on the land. Otherwise, conflicts between mineral and agricultural tenants are governed by the terms of Departmental leases and by custom.

Western Oklahoma has a number of Section 16 and 36 public school lands upon which gas and oil leases are managed by the State Land Commission. These also are awarded to the highest bidder but the bids are sealed bids, submitted after public notice. The bonuses, rentals and royalties are paid into a public school fund.[23]

Other types of public leases of general interest are those for stream beds in navigable rivers. There have been and still continue to be many controversies over this question. The general rule has come to be that oil and gas removed from beneath the stream bed of a non-navigable stream belongs to the riparian owner, whereas that which is removed from the beds of navigable streams belongs to the state. Navigable stream bed leases come under the jurisdiction of the State Land Commission and income from them goes to the school fund.[24]

Adjustment of Conflicting Interests

Whatever the arrangement between the man who owns or farms the land and the man who owns the minerals or is engaged in petroleum production or in mining, some points of friction are inevitable. By statute, by contract and by implication or custom, certain rights and duties have been imposed upon both landowner and mineral operator. Some of these rights and obligations have been created for public benefit. Others are rules of arbitration as among individuals.

[22] In 1934, Congress gave the Reconstruction Finance Corporation authority to make loans to farmers' cooperative mineral pools, but no loans were ever made. Cf., *Mineral Resources of the Country as Related to Farm Lands*, Letter from the Sec. of Agr., Sen. Doc. 93, 72d Congress, 1st Session.

[23] Glassmire, *op. cit.*, Sec. 68.

[24] *Vickery* v. *Yahola Sand and Gravel Co.*, 12 P(2d) 881, 158 Okla. 120 (1932).

Conservation Legislation. The public represented by the whole people has a right to be sure that irreplaceable natural resources are not wasted. The public in a more restricted sense—comprising chiefly the citizens of a community, a county or the state—has a right to insist that the exploitation of these natural resources be conducted in an orderly fashion with due regard for preventing economic waste, "boom towns," unequal taxation, sudden shifts in employment opportunities, and the like. Finally, the owners of land in a single oil pool—a still more restricted segment of the public—are entitled to their fair and equitable share of the recoverable oil in the pool.

These are matters which have attracted legislative attention in all the important oil-producing states. Oklahoma pioneered in the adoption of waste-prevention laws. The Law of 1915 undertook to prohibit "economic waste, underground waste, surface waste and waste incident to the production of crude oil or petroleum in excess of transportation or marketing facilities or reasonable market demands."[25] Revised and refined, the basic principles of this law are still in effect and the State Corporation Commission has authority to make such rules and regulations as may be required to enforce them.[26]

Leading devices for controlling waste are: (1) proration of the production for each well in accordance with physical and economic necessities, and (2) spacing of wells so as to withdraw oil and gas from each individual pool in the most efficient manner. Proration of oil production, where properly administered by individual states in cooperation with other states through interstate oil compacts, tends to protect both the states and the nation from uneconomic depletion of this irreplaceable natural resource. It likewise aids in stabilizing community development in the active fields because it prolongs the period of production. This makes possible the building and financing of vital school, road and public service facilities with an assurance of satisfactory tax resources to liquidate indebtedness carried over fifteen and twenty year periods. Finally, proration favors the proposition that every oil producer in a pool is entitled to his fair share of the oil in the pool.

Proration quotas must take into consideration the spacing of wells if the principle of equitable production is to be safeguarded. If producer X were permitted the same daily capacity for each of five wells on a ten-acre tract as producer Y was permitted on a single well per ten-acre tract, X would obviously be getting more than his share of the oil. Except for spacing regulation, Y's only defense would be the drilling of more wells. If the physical conditions found in that particular field are such that one well on each ten-acre tract will efficiently drain the oil from the pool, additional wells become unnecessary financial burdens and constitute needless obstructions to surface land use. Oklahoma's laws embody both the principles of proration and spacing.

Other Types of Regulation. Perhaps of greater concern to the individual landowner than proration and spacing regulations are the statutory prohibitions against pollution of fresh water strata, overflow of waste oil and salt water, pollution of streams, and the like.

Authority granted the Corporation Commission to issue rules, regulations and orders for the protection of fresh water strata[27] is used chiefly in determining the depth to which casings are to be run for every new well that is drilled. If casings are properly set pollution is pre-

[25] Sessions Laws 1915, Ch. 25.
[26] 52 Okla. Stat. Ann. 81 to 138.
[27] 52 Okla. Stat. Ann. 85.

vented. Even the oil companies are advantaged by this process because the casing, properly installed, is insurance against costly suits for damage to fresh water. The depth to be required for any given well is determined by the Corporation Commission upon hearing after ten days' notice published in an Oklahoma City paper. The landowner has a right to be heard but he seldom knows of the hearing or takes the trouble to attend. This is one of many instances in which existing laws provide the basis for a mutual protection of rights as between mineral operators and landowners but in which lack of information may keep the landowner from full representation.

Another requirement of the statutes that has an important relation both to water pollution and protection of various oil and gas strata is that dealing with well plugging. The law requires that abandoned wells shall be plugged with such materials and in such manner as the Corporation Commission may direct.[28]

Still another statute provides that no one shall permit crude oil to be deposited in any of the streams or lakes of the state. This statute is primarily for the protection of fish and wildlife.[29]

The most comprehensive of these anti-pollution statutes is the one which provides that "No inflammable product from any oil or gas well shall be permitted to run into any tank, pool or stream used for watering stock; and all waste of oil and refuse from tanks or wells shall be drained into proper receptacles at a safe distance from the tanks, wells or buildings, and be immediately burned or transported from the premises, and in no case shall it be permitted to flow over the land. Salt water shall not be allowed to flow over the surface of the land."[30]

This anti-pollution statute has been a subject of frequent discussion by the courts. It has been recently held, for example, that the oil lessee has a right to occupy and use as much of the leased premises as may be reasonably necessary in the operation of an oil-producing enterprise, and this includes space required for constructing tanks, ponds or other receptacles necessary to confine refuse matter.[31] Furthermore, the lessee may use such additional space as is needed for transporting the refuse from the well to the receptacles in an ordinarily prudent manner. The fact that an open ditch, 2 feet wide and 75 feet long, is used in doing the transporting does not violate the principle, nor is it essential that the ditch and the slush pools be fenced.[32]

Aside from these sections of law dealing with various types of pollution through overflow of oil waste or salt water, there is one other statute designed to protect surface properties. This is the section which makes any lessee of public lands who operates for oil and gas liable to the state, the agricultural tenant or the surface purchase contract holder for all damages to surface interests and to all crops and improvements and other surface properties.[33] Here it appears to be the intent of the state to require that its agricultural tenants be properly reimbursed for damages they may incur in connection with an enterprise from which they stand no chance of gaining anything. The court has said that damages can be recovered under the statute "for the diminution in the usable or rental value of the land taken or injured, and the injury,

[28] 17 Okla. Stat. Ann. 53, and 52 Okla. Stat. Ann. 297.

[29] 29 Okla. Stat. Ann. 273.

[30] 52 Okla. Stat. Ann. 296.

[31] *Magnolia Petroleum Co.* v. *Howard*, 77 P(2d) 18, 182 Okla. 101, (1938).

[32] *Pure Oil Company* v. *Gear*, 83 P (2d) 389, 183 Okla. 489 (1938).

[33] 64 Okl. Stat. Ann. 287.

if any, to the improvements and crops, by such operations. . ."[34]

Deed and Lease Clauses

Oil and gas lease forms customarily used in the state contain certain provisions which are useful in defining the relative rights of the landowner and the mineral operator.[35] They ordinarily provide, for example, that the owner of growing crops shall be compensated for any damage done to these crops in the normal course of operating activity. Repeated with similar frequency is the agreement that the oil operator will bury pipes below plow depth if requested to do so, also the agreement not to drill a well nearer than 200 feet to the house or barn "now on said premises" except with the written consent of the owner.

Two common stipulations in favor of the lessee are, first, that he may use free of charge any gas, oil and water produced on the land, except water from the lessor's well, and second, that machinery and fixtures placed on the premises may be removed. This includes the right to draw and remove casing.

Leases used by the U. S. Department of the Interior in connection with the administration of Indian lands present interesting variations from the customary agreement clauses. A form used in leasing lands in the Osage Reservation, for example, provides that the:

"Lessee shall have the right to use so much of the surface and such water on the premises as may be necessary for operations, including the right to lay and maintain pipe lines, telephone and telegraph lines, pull rods, and other appliances necessary for the operation of the wells; also the right of ingress and egress and the rights of way to any point of operation under condition to least injury and inconvenience to the owner and occupant of the surface. Before commencing operations the lessee shall pay to the surface owner the sum of one hundred dollars for each well located on cultivated land or land suitable for cultivation and thirty-five dollars for each location on land not susceptible to cultivation. Upon payment of such location-site money lessee shall be entitled to possession. Location sites shall not exceed one and one-half acres in area. Lessee shall also pay ten dollars for each site outside the well location used for oil tanks. . ."[36]

A lease form recently adopted by the U. S. Department of Agriculture contains a series of interesting provisions. This particular form is called an "Oil and Gas Protective Lease", and is used on all lands administered by the Forest Service, the Soil Conservation Service and the Farm Security Administration. One of its distinctive features is a provision for exercising special precautions in connection with forest, brush and grass fire hazards. Another of its distinctive features is its protective character, which means that the lessee does not acquire the right to go upon the land immediately and drill but he may do so only if he receives a notice to drill from the Secretary of Agriculture, and the Secretary sends such a notice only if the oil and gas deposits underlying the leased land are in danger of drainage. Since the outbreak of the war, however, this protective feature has been dispensed with in some cases, when the war effort required production.[37] Many other examples can be found of leases that depart from standard generalities in defining the relative duties of oil lessee and lessor with

[34] *Anderson-Pritchard Oil Corp.* v. *McBride*, 109 P (2d) 221, 188 Okla. 384 (1941).

[35] Summers, *op. cit.*, Sec. 1263.

[36] Form B. Oil Mining Lease, Osage Reservation, Okla., U. S. Dept. of the Interior.

[37] U. S. Dept. of Agriculture, *Oil and Gas Leasing Procedure*, Washington, D. C.; May 5, 1941. (Issued for administrative use only.)

regard to surface use of land. These provisions are often helpful in preventing misunderstandings and lawsuits. On the other hand, it is essential that every such phase be carefully weighed to make certain that it conveys the intended meaning.

Implied Rights and Duties. In the absence of statutory or contractual expressions, the oil operator has certain implied rights and obligations with respect to his use and treatment of the land surface. One of the commonest of these is the implied right of ingress and egress over the land to the extent that is necessary for carrying on oil and gas production. This rule is clearly followed in Oklahoma insofar as leases and exceptions or reservations are concerned.[38] Certainly no property right in minerals lying beneath the land surface can be of much value unless the owner has a right to traverse the surface and to use whatever parts of it may be needed in the conduct of the usual exploratory and production operations. Most leases and mineral deeds contain a general statement of the lessee's or grantee's rights to surface use. The problem in any specific situation is to determine whether the controversial usage is named in the instrument, or whether, lacking that, it is reasonably necessary to the drilling and production of oil and gas.[39]

In a recent case, for example, it was held that the right of implied surface use extended to the space needed for building tanks or reservoirs to store salt water, waste oil and other refuse matter which may accumulate as the result of prudent operation.[40] On the other hand, the mineral operator has no right to use the surface of one leased property as a base for working another unless the lease makes specific provision to that effect.[41] Furthermore, oil producers operating under the usual lease provisions are liable for the removal of accumulated trash, rubbish and machinery not immediately needed for production.[42]

Another point to note in dealing with implied rights and duties is that the oil lessee may drill wells anywhere on the land covered by the lease so long as he is not guilty of negligence in the operation While the landowner may take specific precautions to protect himself through qualifying clauses in the lease or subsurface deed—as in the case of the requirement that no well be drilled within 200 feet of an existing house or barn—the mere fact that the oil-drilling process as carried on in any particular part of the leased land is annoying is no cause for having it discontinued. This point was decided in a case involving urban land and the same rule would apply to rural lands. Resident owners of an unincorporated subdivision near Tulsa brought suit to prevent drilling for oil on the ground that it constituted a nuisance. They were turned down. The court said that they had purchased the surface rights only to their lots and they were presumed to know that the subsurface lessee had a right to drill a well there. If they were inconvenienced, discomforted and annoyed, that possible disturbance was said by the court to be a known factor in the surface purchase price. Naturally this denial of relief was based on the assumption that the drilling would be done with reasonable care or "in the usual and ordinary manner" with the "usual and ordinary precautions taken to prevent injury and annoyance," to use the court's phrases.[43]

[38] *Rennie* v. *Red Star Oil Co.*, 190 P. 391, 78 Okl.
[39] Summers, *op. cit.*, sec. 652.
[40] *Livingston* v. *Indian Territory Illuminating Oil Co.*, C.C.A. Okl. 1937, 91 F(2d) 833.
[41] *Franz Corp.* v. *Fifer*, 295 F. 106 (1924) *Pulaski Oil Co.* v. *Conner*, 162 P. 464 (1916).
[42] *Schlegel* v. *Kinizie*, 12 P (2d) 223, 158 Okla. 93, (1932).
[43] *Mary Oil and Gas Co.* v. *Raines*, 235 P. 1085, 108 Okla. 222, (1925).

What constitutes reasonable care is frequently a matter of controversy and it is here that custom plays a large part in guiding the courts. The physical facts for each case are bound to be somewhat different and "reasonable" care will be an amount of care that varies according to circumstances. This is illustrated by a recent case arising out of a lease agreement to the effect that the lessee would restore the surface property to its former condition and pay the lessor a specified amount as damages for drilling each well. The court ruled that there had been no consideration for these special promises and that the lessee was not liable for the damages for the reason that he was privileged by the terms of the lease to drill the well and to use the premises without liability to the lessor.[44]

Compensation for Damages. What does or does not constitute legal damage is a matter of concern chiefly because of the element of compensation involved. One of the most common forms of damage results from escaping waste oil and salt water. Rules for fixing the amount of compensation to be paid the surface operator or the landowner in such cases vary according to circumstance. In general, however, it might be said that where the injury is only temporary, the damages recoverable would be an amount equal to the difference or loss in rental value of the land before and after the injury. If the injury is permanent, the amount to which the injured party is entitled is the difference in the market value of the land before the injury and its value immediately afterward.[45] When permanent damages have been determined and assessed through court action, this will, of course, bar any future recovery. For example, in a case where the overflow of a creek was found to have caused permanent damage to 30 acres of farm land and settlement had been made accordingly, the court refused consideration of a later claim made for the damage done to wells and stock water as a result of the same overflowing of the creek even though these damages were not apparent or even predictable at the time of the original settlement.[46]

A large number of cases have arisen out of damage caused by the escape of salt water and oil refuse in such a way as to pollute water supplies and streams as well as to render surface lands valueless for agricultural production. In a majority of these cases the escape of injurious salt water and oil refuse is held to be a matter of negligence in itself for which the guilty parties are liable in damages.[47] This holding is based on the fact that Oklahoma statutes set up specific requirements for disposal of these products in connection with the operation of oil wells.

Injuries to crops and trees rather than to the land have frequently been the cause of appeals to the court. Here the general rule is that the owner is entitled to compensation for their full value at the time of the injury. This amount may be determined through testimony as to the probable yield and the market value of the crop at the nearest market at maturity. From this amount would be deducted the anticipated remaining cost of cultivation and the cost of marketing the product.[48]

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[44] *Black Gold Petroleum Co.* v. *Hill*, 108 P. (2d) 784, 188 Okla. 305. (1940).

[45] *Sheridan Oil Co.* v. *Wall*, 103 P. (2d) 507, 187 Okla. 398 (1940); *Sinclair Prairie Oil Co.* v. *Seebeck*, 78 P. (2d) 282, 182 Okla. 436 (1938).

[46] *Judd* v. *Comar Oil Co.*, 45 P. (2d) 532, 172 Okla. 538 (1935).

[47] It may be observed that when an act is held to be "negligence in itself." this really means that doing the act subjects the doer to liability, irrespective of negligence, and that this is one of the few but multiplying instances of the modern revival of the ancient common law doctrine of liability without fault.

[48] *Comar Oil Co.* v. *Richter*, 260 P. 60, 127 Okla. 153 (1927); *Union Oil and Mining Co.* v. *Booth*, 298 P. 258, 148 Okla. 196 (1931).

Right of a tenant farmer to sue for the full amount of damage to a crop upon which he is obligated to pay the landlord in the form of rent has sometimes been questioned. So long as the farmer may legally be considered a tenant and not a cropper, the courts have usually held that he is the owner of a crop until it has been harvested and that he is consequently entitled to bring the suit in his own name. In a recent case, however, where a tenant renting the farm on a year-to-year basis brought suit to recover damages to his crops during two successive years, the court denied his right to compensation for the second year. The damage was caused by the flooding of a salty and oil-filled creek in the spring of 1933. The court held that any damage to 1934 crops would be due to the landlord and not the tenant, inasmuch as the tenant must have entered into his 1934 lease with full knowledge of the impaired condition of the land.[49]

Many other situations might be mentioned in which farmers may recover damages for injury to their property. Perhaps the most important one that remains to be mentioned is injury to cattle or other livestock as a result of the drinking of salt water from streams. Where the injury results in the death of the livestock, the amount of the damages will ordinarily be their market value, and when they do not die, the amount of the damage will be the difference between what their owner had a right to expect to receive for them and the amount that he actually did receive for them.[50]

[49] *H. F. Wilcox Oil and Gas Co.* v. *Murphy*, 97 P. (2d) 84, 186 Okla. 188 (1939).

[50] *Darby Petroleum Co.* v. *Mason*, 54 P. (2d) 1046, 176 Okla. 138 (1936); *Indian Territory Illuminating Oil Co.* v. *Graham*, 50 P. (2d) 720, 174 Okla. 438 (1935); *Gulf Refining Co.* v. *Carruthers*, 120 P. (2d) 991 (Okla. 1942).

Implications of Subsurface Tenure Arrangements

When all the ramifications of subsurface land tenure arrangements have been explored, they come to represent devices created by custom, court decisions and legislation to meet the demands of four groups of property owners. These groups include farm owners, farm tenants, mineral fee owners and mineral lessees. In addition, at varying degrees of proximity to the conflicts among these four groups, there is an over-all partisan interest represented by the public. The basic conflict grows out of the fact that a portion of the land's surface must be used in oil and gas production.

Favorable Position of Fee-Simple Owner. Under fee-simple ownership, where the whole property right described by Blackstone in his definition of land remains undivided, the owner is in a position to reconcile the basic conflicts between surface and subsurface land use by balancing the advantages from mineral production against the disadvantages to established agricultural enterprises. If he farms the land himself, he has complete control of the surface whenever an opportunity presents itself for entering into a mineral lease. In that case he gets not only the bonus, delay rental and royalty monies that may come from the lease, but he is likewise entitled to damages for one year's crop and for injury to trees, livestock and buildings, or to the land outside areas reasonably required for the wells, roads to and from wells, tanks and the like, should such damage result from the operations of the subsurface tenant.

The presence of an agricultural tenant, temporarily vested with the right to full use of the surface, brings about a complication. The owner may be obliged to seek to regain possession in order to convey

immediate rights of ingress and egress to a mineral lessee. Otherwise, the mineral lessee must negotiate with the agricultural tenant directly to obtain rights of ingress and egress during the unexpired term of the agricultural lease. Agricultural tenants and mineral lessees are, therefore, direct competitors for the use of the land; and if they use the land simultaneously, the fee-simple owner is responsible for reconciling their differences and for establishing the relationships under which they are to make use of the surface. In other words, both the primary interests and the responsibilities relative to conservation and use of the land's surface are vested in the landowner, and the practices of both mineral lessees and agricultural lessees in these respects are determined through negotiations with the owner.

Whether the fee-simple owner farms his own land or lives in some distant place holding the land as an investment, his reaction to the discovery of valuable mineral deposits beneath the land is likely to be in favor of quick profit from the subsurface without much regard for the more stable source of income from agriculture. He has several avenues for profit opened to him. By selling the land with a reservation or exception of minerals, he may continue to derive the full benefit of returns from the mineral lease without having any responsibility for managing the surface or for paying real property taxes.[51] Alternatively, he may sell all or part of the minerals by means of a perpetual mineral deed. In that case, he is likely to obtain much more from the sale than he had originally invested in the property and can retain the surface for whatever residual income it is capable of producing. Likewise, the same liquidation of original investment could conceivably be achieved by partial conveyances or assignments of royalty. These conveyances or assignments of royalty endure only for the term of a particular mineral lease. The landowner is thus advantaged by keeping his fee-simple title unclouded.

Decreased Responsibility of Mineral Fee Owner. The same motives that lead a fee-simple owner to split the fee by selling the land subject to an exception or reservation of minerals are operative in the minds of investors and speculators who have no interest whatever in land as such, but are desirous of participating in the exploitation of the subsurface. In either case, land tenure arrangements have been worked out for the accomplishment of a splitting of the ownership fee and it is feasible for the outside investor to possess property rights in the subsurface without taking any responsibility for the surface. In contrast with the original fee-simple owner, however, this outsider has recourse only to profits from mineral development and in case of failure in subsurface production, he not infrequently loses everything he invests.

Rights of Farm Tenant or Farmer Buying Surface. Present subsurface land tenure arrangements provide a number of hazards for the farm tenant or for the farmer buying only the surface of the land. The major difference in their position is that the tenant's surface rights are limited to the term of his lease, while the surface purchaser has perpetual rights.

Under these circumstances, the tenant is likely to be crowded out and removed at the expiration of his lease if exploration for and production of minerals is inconvenienced by his presence. As a matter of fact, it is a common practice in some oil

[51] If there is mineral production and a gross production tax is being paid, a real estate tax sale does not convey minerals. When there is no production, a subsurface owner has the same responsibility for real property taxes as a mortgagee. For a more detailed discussion see the *Oklahoma Bar Journal*, Dec. 27, 1941, p. 1808.

fields for the oil and gas lessee to buy the agricultural lease. This practice permits freer use of the surface, avoids possible claims for damage and cuts down operating costs by eliminating the necessity for taking precautions to protect the surface. Whatever the circumstances, the tenant has only two sources of compensation. In the first place, rental rates should be lower and in the second place, he is entitled to damages for one year's crops at the time mineral operations are initiated and for any injury to his livestock or equipment.

The farmer who buys the surface only, in common with the agricultural tenant, has nothing to gain from the mineral operations. Although he is not so easily crowded out as the tenant, the surface uses which he must relinquish to the mineral fee owner and the mineral lessee may easily increase his farming expenses to the point at which he can no longer make a profit. In any area in which there is strong prospect of mineral development, the surface owner is unlikely to make permanent investments in improvements on the farm and is reluctant to expend time or money on special conservation practices. All these hazards are necessarily reflected in any resale value the surface rights may have. The only protection available to the surface owner is the comparatively negative relief from the aforementioned damages to one year's crops and damages for injury to trees, livestock, buildings, and the like.

Stake of the Oil and Gas Operator. Of the four groups of property owners concerned with land tenure arrangements, the demands of the oil and gas lessee are supported by the best organized economic group. Most of the oil-producing enterprises are operated by large corporations with considerable capital invested and with recourse to the best legal talent. Consequently, the individual owner, whether of the mineral fee or of the surface, or both, may be at a disadvantage whenever a conflict in surface and subsurface use precipitates a claim for damages.

Nevertheless, in trying to evaluate the real justice of any particular damage settlement, it is well to bear in mind that the oil and gas operator has an extensive investment in every field developed. Furthermore, landowners have been paid approximately eight hundred million dollars in royalties from oil and gas since the first wells were discovered, not to mention rentals and bonuses.[52] The total of rentals, bonuses and royalties has netted landowners as high as ninety million dollars in a single year.

This is not to say that the oil companies can do no wrong, for some operators are careless and wasteful. On the other hand, the established rules for assessing damages are not necessarily inequitable. Some companies have, in fact, suggested that the bonuses and royalties they pay are intended as compensation to the landowner for the use of the required surface areas and they do not presume to be liable for any damage to surface properties that results from normal and reasonably careful operations.

This line of reasoning may be perfectly fair when the surface operator owns the surface plus some portion of the mineral rights below. If the surface operator is the oil and gas lessor, he probably does gain enough from the bonuses, rentals and royalties to compensate him for inconvenience and destruction of agricultural productive capacity on portions of his land. He may, as has been suggested, com-

[52] Based on annual production statistics and average annual prices assuming a royalty of one-eighth. Allowance for higher royalties on Osage Indian land and on other lands in areas of high production probably would bring this figure to nearly one billion dollars.

pletely lose interest in the surface value of the land.

The farmer who owns just the surface rights with no royalty interest in the minerals is not so fortunate. The agricultural tenant may be in a like predicament. Neither stands to gain anything from the mineral operations and they can lose everything. Even so, their plight is not necessarily to be charged entirely against the mineral operator for the owner of the mineral estate also gains at the expense of the surface operator. The adjustment ought to be in lower agricultural rents or in lower price for the surface fee.

Insurance of Farm Owner-Operator Investment. Perhaps the soundest rationalization for distributing these rights from the point of view of the farmer is to suggest that when he buys the surface rights only on a piece of land he is gambling that there will be no oil and gas produced. In areas remote from fields of proven production, this may be a good bet and the gambler's advantage is in obtaining the surface property right at low cost for an anticipated agricultural income. The advantage will be more certain if the purchaser has assurance that the title to the surface is good and if there is a clear understanding of any special rights and privileges heretofore conveyed to the mineral fee owners. Any future speculative play in that particular neighborhood is almost certain to be accomplished by a large number of mineral transactions over which the surface owner will have no control; and in the event of his desire to resell the surface these transactions will be reflected in higher abstracting costs necessary for keeping the title in good condition. Furthermore, in purchasing the surface the farmer can expect no damages for mineral operations except (1) damages to one year's growing crops and (2) damages to land, buildings, vegetation and livestock.

All of these are factors to be considered in reaching an agreement on the purchase price. The farmer deserves to have gamblers' odds in determining the price and he should be willing to accept them. The speculator who invests in oil and gas rights on the other hand, is also gambling —sometimes large sums of money—but his gamble is that oil and gas will be produced. While he can often stand to lose money better than the farmer, he may be justified to some extent in reaping a richer reward of profits to compensate for the greater risk, for if no production of minerals results he gains nothing. Between these two extremes is the farmer who owns the surface rights and a fractional portion of the mineral rights—say one-half. He has the advantage of eliminating a certain portion of a speculative mineral valuation from his capital costs; but at the same time he retains an assurance of participation in oil and gas profits, should there be any. In this way he is sure of some opportunity to balance these profits against damage to the land caused by the construction of roads, wells, tanks and pipe-lines; and for the inconvenience to his farming operations resulting from having fields cut up and crop rotations disturbed.

Needed Refinements in Tenure Arrangements

Although splitting the ownership fee may be an advantage to the individual farmer when carried out under some such arrangement as that mentioned above—thus solving the problem of mineral versus agricultural development for those individuals—it is apparent in discussing any single phase of subsurface land tenure ar-

rangements that many improvements and refinements are desirable before the general public interest is fully protected.

To recapitulate briefly, it has been observed, among other things, that the practice of completely and permanently severing the mineral estate from the surface estate has resulted in a serious title clearance problem. This problem appears to be growing worse year by year. Legislation to prevent future complications is desirable; and one possible solution is to substitute reversionary deeds for perpetual mineral deeds or to require that subsurface estates be of limited duration with a remainder to the surface owner, whoever he may be, at the expiration of the permitted term.

For the more difficult problem of clearing up dormant rights, a well administered plan of separate taxation and the foreclosure of delinquent tax liens has some possibilities. Another phase of the title problem requiring attention is the clarification of the rights and obligations of co-tenants. Here some statutory court procedure should be worked out for equitable distribution of rights in accordance with the most economical use of surface lands in obtaining oil and gas.

In alleviating conflicts among the several surface and subsurface land uses, the public interest is represented through conservation legislation. As experience in administration of this type of control increases, new devices for promoting harmonious development of subsurface and surface resources will be found. Spacing and proration regulations may be adjusted to give agricultural land use a more important bearing as time goes on. Furthermore, as the enterprising mineral operators press forward in the discovery and application of economical methods for disposing of waste products and restricting the disturbance to agriculture, conservation legislation may be expanded to force the less enterprising operators to adopt these practices. Meanwhile, conflicts between surface operators and the subsurface owner or lessee must be worked out for the most part in accordance with lease and mineral deed clauses. Legislation providing minimum and maximum standards of performance on the part of oil and gas operators might be useful, and continued study should be given to the use of special deed and lease clauses with a view to minimizing the necessity for costly litigation. At the present time there might be an advantage in extending the practice followed in leasing Osage Indian lands when, as has been mentioned, the amount of liquidated damages for each well is fixed in the lease and the acreage to be used is also agreed upon.

Agricultural Finance Guides in Wartime

By DONALD C. HORTON * *and* HARALD C. LARSEN**

IN the fields of agricultural credit policy, agricultural subsidies and financial management of individual farms, and in still other closely related fields which for the purposes of this paper are considered "agricultural finance," we are in need of basic war-time guides that are consistent with the major physical war-time jobs that we face. For purposes of administration of public programs such guides have to be stated ultimately in the form of specific rules and regulations. But there is an important intermediate stage in the development of any such rules and regulations which involves formulation of the underlying principles.

Within the framework of decisions on public objectives in war-time, there is an important place for economic standards by which particular agricultural finance proposals can be evaluated in terms of predetermined national objectives. In the evaluation of these proposals the possibility of conflicting objectives must always be kept in mind. If not, the resulting agricultural finance program may work at cross purposes rather than in harmony with the entire war program. We can waste scarce resources that are of vital importance in the war effort by faulty financial management just as surely as by faulty engineering.

We all are influenced to some extent by the rather vague ideal that we should try to work out a war-time agricultural finance program that will not violate "sound financial principles." But it is not clear that those financial principles which appear sound in a peace-time economy are also sound in a war-time economy. Our thinking on agricultural finance must be reexamined constantly even in normal times; but the need is even greater in periods such as these. Although it is generally recognized in the abstract that war-time financial principles do not exist independently of the entire war effort, it is sometimes difficult to follow consistently a line of thought that derives guides for war-time agricultural finance policy directly from the inherent necessities of the situation.

Perhaps the only approach that is feasible under present conditions is to seek answers to questions such as the following: (1) What is the major physical job to be done on both the agricultural and nonagricultural fronts? (2) What other secondary objectives are desirable, if feasible? (3) What financial policies are best adapted to do the main job while at the same time accomplishing as much as possible in the direction of the secondary objectives?

In the extensive discussion of the objectives of war-time agricultural finance policies, two major ones stand out. The particular objective that is currently receiving increased attention is the promotion of effective utilization of agricultural resources and manpower for war production. But we have also been concerned throughout with the rather general objective of protecting agriculture against financial hardships that may be imposed *during or following the war.* This paper assumes that in the case of conflict the first of these two objectives must neces-

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sarily take precedence over the second. It is recognized that the agricultural finance policy should attempt to promote the second objective; but only to the extent that it does not interfere unduly with necessary war production. In the discussion that follows, attention is confined to certain current questions of war-time agricultural finance policy and to the bearing that particular agricultural finance proposals may have on the war program as a whole.

Effective Utilization of Agricultural Resources

When the war-time responsibilities of the agricultural population are specifically considered, it is found that they, in common with other groups, have a dual war-time function to perform. One aspect relates to *agriculture's own war-production program* of providing adequate farm products despite obstacles in a war-time economy; the other to *agriculture's general contribution* to still other aspects of the war effort. Farmers' own war-production program involves redirecting and increasing their own efforts efficiently so that the needed agricultural production will be forthcoming. Their general contribution includes such things as furnishing men for the armed forces, shifting their labor to industrial war production, and withholding their demands in the market for goods vital to the war by increasing their voluntary saving, paying debts and paying their share of the war taxes. Many individuals can contribute something to both functions, but the relative importance of their contributions to these two functions necessarily varies widely among different individuals and groups. Others can contribute only to one or the other function.

Agriculture's Dual War-time Function

It is partly because of the duality of agriculture's war-time function that it is so difficult to formulate valid general war-time guides of financial policy for public and private agencies dealing with farmers or for the Treasury in its fiscal relations with farmers. It is likewise difficult to formulate valid generalized war-time standards of individual farm financial management that will be applicable to all farmers.

Agriculture's own war-production program calls for financial policies designed to shift certain of our scarce productive resources and manpower as much as possible to those fields of agriculture most vital for the war effort. It involves also financial measures to attract resources from outside agriculture. For example, carrying through agriculture's own war-production program efficiently may involve a net credit expansion for certain farmers, enlargement of their productive capacity by inducing them to plow back into the business a part of their current farm income, outright grants by the government, or a guaranty of the farmer or his creditors against loss. All of these financial operations serve to retain, or to facilitate the shifting of productive resources where they will be most needed to produce essential agricultural products.

But we cannot consistently recommend such a war-time financial policy generally for all branches of agriculture, or for all farmers within a particular branch. Some farmers, in the national interest, have to reduce their pressure on scarce productive resources and manpower. This would involve, among other things, net credit contraction for some farmers and diversion of a larger than normal part of their current agricultural income to finance phases of the national war program other than

farming. Thus, substantial increases in the rate of debt repayment, accumulation of cash reserves and war bond purchases are also financial counterparts of the physical shifts needed to move rural resources and manpower into essential war production.

Ample Farm Credit for All not the Complete Answer. If getting the desired volume of agricultural production were all that the nation had to consider in its war-production program, then the solution of the question of standards for agricultural finance policy in wartime would be simple. Granted that a certain volume of agricultural products were needed and that the manpower and other resources were in existence to produce them, one effective method would be to offer high enough prices and make sufficient credit available to farmers to make it worth while for them to borrow and bid the required productive resources away from other uses. But important as certain agricultural products are from the national standpoint, there is still the question of the *relative* importance of the resources and labor used in "essential" agricultural production as compared with their importance if used elsewhere in the war effort.

It is not a sufficient standard, therefore, to say that the war-time agricultural production program shall not be hampered for lack of financing. Credit is largely a means by which control over physical resources is obtained or retained. Once our economy is working at or near full capacity, particular branches of the economy can be expanded significantly by means of credit only if others are contracted. At those points where agriculture and industry both need the same basic resources, an attempt to give "ample" credit to both groups would not settle the real question of how the resources ought to be apportioned. It might only contribute to further inflationary pressure without significantly influencing the direction of our war efforts.

Indiscriminate Diversion of Rural Resources to the War Effort. It would be easy to place undue stress on financial policies designed to divert more of agriculture's efforts to the nonagricultural phases of the war program. This is indicated when farmers generally are cautioned against going into debt to expand production, and are urged to use as much of their farm income as possible to buy war bonds and stamps, build up cash reserves and pay off old debts. By following these policies they are expected not only to safeguard themselves against future losses but also to reduce their pressure on scarce resources, with consequent greater chances for war industries to acquire them.

But if certain parts of agricultural production are recognized as war production, such a program cannot properly be applied to all farmers indiscriminately. Some way is needed to identify more clearly those branches of agriculture and those groups of farmers within a particular branch that, in the national interest, should emphasize reduced use of new credit, payment of old debts and saving in such forms as buying war bonds. But for present purposes the other side of this question is perhaps even more important.

How identify those branches of agriculture and those farmers within a particular branch who, in the interest of the war effort, should follow financial policies that will result in their increased use of scarce productive resources? If finance is to be a servant in helping to distribute scarce resources efficiently among different producers, then we need first, certain basic production economics guides as a starting point in setting up agricultural finance guides.

If we assume that a basis for rating commodities according to their relative importance in the war effort could be worked out satisfactorily, the question would still remain as to which farmers, even among those producing with the same rating as to national importance, should expand most and which should expand very little or perhaps shift to other commodities vital to the war effort. Here again it seems necessary "to go back to fundamentals." The first question is, what volume of the particular commodities shall we attempt to produce? With this question settled, the problem of efficient production is one as to which producers can deliver the commodities on schedule with the least net drain on our available scarce productive resources. We want to finance those farmers who will give us the most for the least reduction in other important kinds of production needed in the war effort.

To answer the question of relative productive efficiency under the special circumstances associated with the war, some kind of cost-accounting procedure must be used. If "cost" is defined especially for this purpose, it can be properly said that the lightest drain will be placed on our scarce resources per unit of the necessary additional farm product obtained if expansion takes place among the "low-cost producers." But in using the term "cost" it must be borne in mind that it is cost, in the sense of the additional drain placed on our available scarce resources which otherwise would not occur, that constitutes the most significant outlay for the additional output under emergency war circumstances.

For example, what is the cost to the war program of using more nearly to capacity our existing specialized farm equipment, housing for farm laborers, roads for transportation, processing and marketing facilities, etc.? If they otherwise would not be used to capacity, the cost to the nation of their fuller utilization—in the sense of the restriction placed on other important forms of production—would be small. Likewise, using more fully the farm labor that would not be able to shift to more productive war work involves very little national cost in this sense. The significant cost from the standpoint of obtaining additional production speedily is the drain on those scarce productive resources, needed also in other fields, that would be involved in using the relatively nonshiftable or "sunken" resources more intensively.[1]

In fact, it is questionable whether using up specialized capital equipment that need not be replaced during the war should be given a very heavy weight among the factors to be considered in the cost-accounting procedure used to evaluate relative costs of different producers in our war-production program. In the long-run view, most of these specialized capital resources will probably have to be replaced through future productive efforts, and this from the viewpoint of equity probably should be reflected in money returns or equivalent compensation. But the war must be won with *present* physical productive power. It is maximum physical productivity per unit of those resources that are both disposable and scarce that must provide the principal guide to the production program and to the financial program used to facilitate it. The ideal should be to deploy these scarce and disposable physical resources throughout the entire economy so that in the short run

[1] The shorter the production period under consideration, the more of our productive facilities and labor have to be regarded as sunken resources. The need for speed thus places much more emphasis on efficient use of those things that are capable of being put to a number of important uses.

their productivity "at the margin" is equalized.

We need to think, therefore, in terms of the most efficient short-run combination of our productive resources to get the things most needed in the war effort. Thinking in these terms reduces the emphasis on physical efficiency in the use of those resources that are incapable of being used to advantage in fields vitally important to the war. We may have to apply what may be designated as "extra-market valuations" to much of our agricultural and other productive resources in order to arrive at a basis for the determination of the best physical combination of scarce resources with others that are less scarce. Market valuations of land and other durable production facilities, for example, may come to have little or no relation to the war-time, short-run valuations needed for these facilities in setting a pattern of short-run production economics.

Once we give up the usual market-price mechanism as the source of basic guides to war production, we are forced to devise arrangements that will bridge the gap between the basic extra-market valuations needed to guide war production and the actual prices and costs with which the farmer has to be concerned if he is to continue to operate. To set these extra-market valuations and then translate them into money incomes and money costs that farmers can use as guides for their individual action may require all the ingenuity we can command.

The concept of production economics based on holding to a minimum the scarce-resource cost per unit of additional product obtained does not lend itself readily to the usual cost-accounting treatment. Thus the lowest cost producers, in the sense in which the term is used here, could very well include some farmers on poor land as well as those on good land. It may include those that by customary standards would be considered inefficient and poorly equipped farmers as well as the opposite kinds of farmers. Some in a very weak financial position may be included as well as those in comfortable circumstances. If the test is applied as to whether a given input of scarce resources in a particular production situation will bring forth maximum addition to the market supply of things needed for the war, it may be found that many of our traditional measures of productive efficiency do not apply.

In those cases in which the relationship between the market price for the product and the farmer's own money costs would deter him from expanding production which in the short run would nevertheless make the best national use of scarce resources, there is a place for special financial arrangements that will permit him to gain immediate control over the resources needed to expand production. The function of finance in such situations would be one of seeing that certain farmers receive resources now and the income later to retain them in production, even though actual market-price and money-cost relationships might not seem on the basis of conventional business standards to warrant such a distribution of resources. This may involve special arrangements to provide farm capital, subsidy payments by the government, merely a price guaranty, underwriting of production expenses, or some arrangement to "square the accounts" with the farmer at a later date when we are not at war. Finance from this viewpoint becomes an instrument of public policy to be used to give effect to a schedule of extra-market valuations of productive resources that is consistent with the short-run availability of productive power and the immediate war-time demands for war goods.

Protection of Financial Interests of Agriculture

Financial measures such as those suggested above to facilitate agriculture's dual job of carrying on its own war-production program, while at the same time contributing as much as possible to other phases of the national war-production program, can be expected to result in radical physical changes in our agricultural pattern. In fact, such measures will not have been very successful if for the duration of the war they do not make some radical changes in the production pattern. But many believe that one phase of public agricultural finance policy during the war should nevertheless be to prevent developments which will result in financial hardships to farmers during and at the end of the war.

It is probable that some of the aspects of financial policy needed to get efficient war-time agricultural production might, standing alone, leave certain groups of farmers stranded in a weak financial position at the end of the war. Likewise, some of the financial measures needed to promote efficient production will also serve to help farmers to protect themselves against possible financial hardships. So far as possible we want to prevent the financial arrangements necessary to get efficient agricultural production from placing a disproportionate share of the war costs on farmers. But as with other objectives, the question of the war-time priority of this particular objective has to be settled before the amount of emphasis to be given specifically to special financial policies to achieve it can be settled. If insulation of farmers as a class against financial losses as a result of the war were considered sufficiently important, it could even be placed ahead of efficient production. But we cannot overlook the fact that production to fight the war means that heavy real burdens, as well as financial, must be placed on most of us during or after the war. If efforts to safeguard farmers against financial hardships during and after the war would actually impair our war effort, then we should have to go back to the question of priority of conflicting objectives.

A number of plans have been submitted at various times which place heavy emphasis on helping farmers to protect themselves against war-time and post-war financial hardship. One that has been widely publicized is to have only those farmers who are in a strong financial position take the financial risks associated with the expansion of war production. This is a kind of "ability to pay" plan applied to the taking of war-time production risks. It carries the philosophy of tax liability over into the field of war-time agricultural production.

Before accepting such a program it would be well to inquire whether those best able to take financial losses are necessarily the ones who can increase needed production at the lowest scarce-resource cost per unit of added output. Ability of a particular farmer to lose a part of his own *financial* resources without undue hardship does not necessarily mean that the particular *physical* resources of such a farmer can be combined with other resources in the best interests of short-run efficiency of production. The question as to who holds the equity in particular resources is not vital from the national viewpoint of short-run production efficiency. In fact, a farmer may be in a very weak financial position and still have legal control over physical resources that can, if employed more fully, make a significant net contribution to the war effort.

Still another plan to protect farmers from financial hardships would provide

incentives for farmers to save and build up liquid reserves for capital depletion and for possible losses in the post-war period. But extensive emphasis on saving by all farmers may retard the rate of production expansion in those agricultural fields vital to the war effort. Building up liquid reserves on the one hand, and investing all available funds to expand needed production on the other, are in part contradictory policies. Plowing back earnings into the business and borrowing additional funds to expand production may be so desirable in some fields that we may even be willing to underwrite a part of such investment. In such cases building up a reserve in the form of physical resources may be of more national importance than building up cash reserves out of income. We may want some farmers to make a direct investment in agricultural war production, and if this is sufficiently important, we have many financial devices to make such an investment attractive.

A question may be raised also as to whether it is better in all cases to try to provide all farmers with special safeguards against future losses than to deal with specific problems later when those actually needing help can be identified. We surely do not want to become so preoccupied with the insulation of all farmers against war-time and post-war financial losses that we fail to take the financial measures necessary to organize agriculture effectively in order to deliver the agricultural products needed in the war. To the extent that price guarantees and other forms of insurance against loss are needed to assure that farm production will be adequate, this is a part of the production program that can stand on its own feet. But when we consider embarking on a general program of giving financial security in an insecure world we must be prepared to defend this objective in case it conflicts with getting necessary production at a minimum scarce-resource cost for the nation.

Still another approach is to urge special measures to place agriculture more nearly on a parity as regards financial risks with those war industries that are financed directly or indirectly with public funds. It is argued that agriculture should have protection against losses resulting from the warping of the agricultural pattern during the war that will be equivalent to the various loss-absorbing measures now provided for many of the war-material industries. It is not always clear, however, whether this is recommended as a means of promoting efficient production of agricultural products or as a means for the diffusion of agriculture's special war costs over the nation as a whole. Such a plan might conceivably serve both ends within certain limits; but it would be desirable to be clear as to which objective is to predominate. It must be borne in mind, also, that in the main the extent to which any particular industry's special war costs actually will become socialized will depend also on the post-war fiscal and economic policies adopted. The way post-war taxes are levied and the post-war policies adopted in relation to agriculture and industry may have more to do with what share of the war cost is ultimately borne by farmers than the particular fiscal measures adopted during the war.

Mixed along with the other stated objectives of agricultural finance policy is usually found the desire to keep from feeding unnecessarily the fires of commodity-price and land-value inflation. This is frequently regarded as an over-all protection against financial hardships for farmers. Emphasis on this objective takes many forms. Lending agencies are urged not to lend too freely to farmers, especially to finance purchases of farm land

and to finance building up of inventories. Farmers are cautioned against paying too much for farms. They are urged to save their incomes to build up cash reserves and to repay debts, all to help hold down the demand for commodities.

When the anti-inflationary phases of agricultural finance policy alone are considered, the expansion of credit that may be needed to facilitate certain phases of the war-time, agricultural production program is frequently kept in a separate thought compartment. It seems to be assumed that we shall get all the agricultural production we need. Some of the thinking associated with a peace-time surplus economy seems to carry over into such discussions. But we have a tendency to develop a more positive approach to subsidies, credit expansion, and other financial measures (as a means of harnessing our resources efficiently for the war effort) when the war-production program is specifically under consideration. In this, as in so many other phases of agricultural finance policy, the tendency to think about each phase separately runs the risk of leaving us with a number of minor programs for doing many things separately, but without any basic standard of policy to which all aspects of a major program can be related.

We are all aware of the shortcomings of abstract and theoretical discussion of basic questions of public policy. But instances can be cited of the dangers of developing in piecemeal fashion a number of inconsistent programs each of which would be feasible only if all others were given very low priority ratings. Thus we may insist that we want the credit expansion required to get needed additional agricultural production but we are equally insistent that we do not want so much of it as to contribute to price inflation. We recognize that we want certain farmers to borrow to expand production but we do not want them to get too heavily in debt as a result of this borrowing. We want farmers to pay debts and buy war bonds, but do not want the agricultural production program to be hampered.

Almost any conceivable agricultural finance program can find some justification, either as an anti-inflationary measure, as an aid to the Food for Freedom Program, or as protection of farmers against war-time and post-war hardships. We may have to decide which we want most. The answers to many apparent contradictions may be found if we are willing to face the issue as to what order of priorities we are willing to assign to the several objectives which agricultural finance policy can facilitate. It is true that questions of this kind often require an answer based on public policy or military considerations. But if after a consideration of alternative public objectives we really believe that getting the necessary agricultural production at the least scarce-resource cost is objective number one, then we shall probably have to forego certain other very desirable objectives insofar as they are inherently contradictory to this one. We may not be able to hold all phases of credit expansion and the resulting inflation in check so well if we find that we must use credit expansion to achieve some of our major production objectives. We may not be able to distribute the war cost as equitably during the war as we might wish. Some incidental pinching of the fixed-income and other groups may be unavoidable. We may have to deal with post-war hardships of farmers and others when they occur rather than adopt immediate blanket protective measures which may not only protect farmers but may also prevent full and most efficient mobilization of agricultural resources for war production. We may have to give up the ideal of achieving

"all good things" for agriculture when we find it necessary to call on farmers to make great war-time sacrifices. Our financial policies in relation to agriculture can be no more enlightened than are our decisions on basic economic objectives for the war period and on the measures necessary to achieve them.

Can Valid Basic Guides Be Formulated?

The question is sometimes asked whether, after all, it is worth while to try to formulate general guides for agricultural finance policy in war-time. Perhaps the difficulties are so great that farmers and those who have dealings with them should be urged to proceed in their financial matters much as if the country were not at war. In other words, perhaps the field of agricultural finance should be largely neutral, with other instruments of government policy used to guide production into the lines desired and to achieve other desirable objectives.

This, of course, merely accepts the traditional agricultural finance guides in preference to some other set of guides specifically designed to aid in the war effort. But we shall not escape the real problem by so doing. We shall still have the task of erecting barriers at those points where "finance as usual" tends to operate contrary to the public interest in effective war-time mobilization of resources. Sooner or later we are faced with many of the same questions as those raised earlier. The answer would seem to be that whether we wish it or not we shall have to formulate and apply some kind of standard of war-time agricultural finance policy. And perhaps it may as well be done consciously and as intelligently as possible since the problem cannot be avoided by inaction. The following appears to be one reasonable approach.

First, in view of the scarcity of many productive resources, the relative importance of different products for the war effort has to be decided primarily by the federal government. Therefore, any consideration of agricultural policy must begin with over-all national production goals in which agricultural products are included along with other things needed for the war. This is basically a problem of setting up our extra-market valuation schedules.

Second, the needed amounts and kinds of farm products having been determined, it becomes the function of agricultural policy to obtain these products at the least cost of scarce productive resources.

Third, the primary function of agricultural finance is to furnish one of several instruments to facilitate a production program already determined upon in physical terms. This may involve policies with regard to credit, taxation, war bond sales, subsidies, and the entire field of educational work directed toward the encouragement of farmers to follow financial policies in the national interest. To implement this physical production program may require direct action by governmental credit agencies, educational programs for farmers and lenders, and participation in policy discussions with other federal agencies when decisions on national financial policy affect farmers. Back of all these activities should be the primary objective of getting agriculture to make its necessary contribution to the war with as little impairment of the rest of the war effort as possible.

Fourth and finally, within the limits already noted, agricultural finance policy should be directed at prevention of war-time and post-war financial hardships for farmers and at an equitable distribution of

the war burden among different farmers and between agriculture and the rest of the economy. Whether a particular proposal arises initially as an effort to implement the agricultural war-production program or as a method of easing the war and post-war burdens of farmers, the first test has to be whether it is likely to have a favorable effect on the war effort as a whole. If that test can be passed equally well by a number of different agricultural finance proposals, the next test is their relative advantages as judged by these other secondary objectives.

Opinion has shifted greatly since the outbreak of the war as to how serious the agricultural production problem really is. Further shifts and differences of opinion are to be expected in the future. These observations are based on the belief that the production problem is vital in the winning of the war. If so, then we should be prepared to carry through the implications of the production situation into the field of public agricultural finance policy.

The Land Tenure Ideal*

By CONRAD H. HAMMAR†

"LAND tenure forms the core of institutional agricultural policy. . . . It certainly poses agricultural policy's most central problems, and probably its most vital ones."[1] This statement is typical of the persistent belief that land tenure outranks every other problem in agriculture. This belief also presumes that there is one desirable pattern of tenure and this pattern calls for a maximum of owner-operation. Any increase in the percentage of owner-operators is counted as a gain and any decrease, a loss. Yet tenure systems do change and tenure ideals are different from country to country and even from region to region in the same country. Furthermore, it can hardly be maintained that land tenure "poses agricultural policy's central problems;" and it shall be the purpose of this article to maintain the view that those in charge of agricultural policy-making should give first attention to many other and more vital problems which, if solved, will tend to solve the tenure problem. Tenure patterns are more nearly a by-product than a main product and are subordinate to others in importance in the agricultural economy. Unfortunately, these other problems have not been ranked in the hierarchy of social objectives above the ideal of maximum owner-operatorship so that the tenure researcher seems to feel less need than do other researchers to check his bearings.[2]

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[1] Karl Brandt, "Toward a More Adequate Approach to the Farm Tenure Program," *Journal of Farm Economics*, February, 1942, p. 206.

[2] *Ibid.*

Dynamic Aspects of Tenure

That no system of tenure fits all times is so trite a statement that it amounts to a cliché. Yet it apparently needs restatement if the dynamics of tenure are to be properly appreciated. Manorial tenure apparently suited at least a portion of the period of its existence, however archaic it may seem in relation to present-day situations. A system of tenure in which owner-operatorship was dominant was desirable and, what is quite as compelling, virtually inevitable during a pioneer period of abundant, free land. A system with considerable tenancy is equally inevitable during a period when farms must be bought rather than homesteaded.

These are, however, mere minutia and the real dynamics of tenure should be listed under headings of a quite different order. The major prospective changes in the system of tenure in the United States are likely to come as a result of (1) rising national income, (2) improving levels of education, (3) advancing technology, and (4) shifting responsibilities in the assumption of financial risks. That is, the tenure pattern of the period must be adapted as national economic goals are progressively achieved and the goals that appear most pertinent to an economic analysis are those of (1) greater income, (2) greater equality, (3) greater security, and (4) greater efficiency.

Rising National Income and Tenure

A more adequate approach to the farm tenure problem cannot avoid coming to grips with the problem of forecasting

future national income and thereafter of visualizing the tenure pattern that will facilitate both the attainment and later the maintenance of that income. National income is not a static thing. What it will be, particularly over the long run that tenure reform must of necessity contemplate, is unfortunately conjectural but that need not deter us from noting the data that are available. It is well known, for instance, that national income increased during the period prior to 1930 at about 4 per cent compounded per annum. Such a rate of increase for the future may not be maintained (though technical advances may make possible a much greater rate) because of the slowing down of the rate of population growth. However, "we have a right to expect in the next half-century a rate of increase in real and money income of 2 to 2½ per cent per annum. In fifty years this would give us a national income of around $250 to $300 billions of dollars at 1940 prices."[3] Such an income, if and when achieved, will be about three times the income for the year 1941. Since population will apparently not increase greatly from the present, it may be assumed that per capita income will be approximately three times greater in 1990 than in 1940.

Now the prospect of so large a national income raises some very definite questions with respect to farm tenure. The great question is, of course, how can farm tenure arrangements be made such that farmers may contribute at least their share to the enlarged income? How many farms will we need at that time? Will the cropper tract with its association of one negro, one mule, and 40 acres have to go? How much land and capital must the farmer of that day, equipped with his management skills and the prevalent techniques, need to produce a product three or more times as great as at present. Further, what about small farms everywhere as producing units in such a period?

Farmers are like others in the economy in that they must, if they are to produce heavily, associate themselves with abundant resources. In actual fact, agricultural wealth per capita (farm population) has been declining since 1910 in relation to wealth per capita of the nonfarm population. In 1910 the ratio of farm to nonfarm wealth per capita stood at 41.1 per cent but had declined to 32.0 per cent by 1930 and probably still further by 1940.

These declines in relative wealth per capita are in part merely an expression of the declining importance of agriculture as national income rises. In part, however, they are an expression of a growing unbalance in the use of labor, or an expression of the result of too many farmers. The unbalance is greatest in the South where live half the nation's farmers. In the three southern geographical divisions, average land and building values per farm are about three-fifths of the average for the country as a whole. Average land and building values in these three divisions are improving slowly in relation to the national average. On the other hand, these same southern divisions appear to be dropping behind in the value of machinery. At least the average value of implements and machinery was lower in relation to the national average in 1940 than in 1910 in South Atlantic and East South Central Divisions, and only slightly higher in the West South Central. Human energy is getting less mechanical support in these areas than elsewhere.

This matter of human energy, its amount and quality, may indeed prove the critical element in the tenure situation particularly in the South. Mere concern over larger land and equipment resources per

[3] A. H. Hansen, *Fiscal Policy and Business Cycles* (Norton and Co., 1941), page 173.

farm may prove a fruitless one since there is no assurance that the southern share cropper can handle effectively any more land and equipment than he now has. Underlying good tenure there must be good humans, able to supply something more than mere raw energy; this latter is becoming abundant and cheap. That is, in the United States at present, reports the National Resources Planning Board, there is a supply of energy sources of all kinds capable of providing for each family the equivalent of the work of 120 horses working 8 hours a day, six days a week.[4] The inference is inescapable, therefore, that those who are untrained must compete with increasingly abundant energy more and more cunningly used. Even with wages at the exceedingly low levels of the depressed thirties, share croppers and farm laborers in the south have been displaced by tractors as a still cheaper source of farm power.[5] The notorious roadside strikes of unwanted croppers and laborers made ugly history in Missouri and Arkansas during the latter years of the depression.

A later study indicates even more clearly why these share croppers and laborers of the cotton belt are finding it so difficult to maintain their economic status. The data of a study obtained from blood tests of the Farm Security Administration clients in the cotton producing, southeast, "boot-heel" section of Missouri definitely indicate secondary anemia. Whites make a better showing than negroes. Anemia was more prevalent among females than males, and among children than among adults. The study concludes that the condition was "definitely remedial" by a proper diet and that among negroes who had been longest clients of the Farm Security Administration, the proportion with anemia was less than for those who had been clients for a shorter period.[6]

Assuming that conditions reported in this publication may be fairly widespread in similar communities throughout the Cotton South, the conclusions for the present paper are two: First, in an era when energy has become abundant and cheap, many croppers and laborers are so badly nourished that they cannot even supply a large quantum of energy. Second, the land tenure of these people probably cannot be significantly bettered until their physical condition has been improved to such a point that they are able to carry greater burdens of labor and management than at present. Indeed, as the McNeely and Barton study indicates, the recent tendency has been for these people to move down rather than up the ladder.

Tenure and Security

Farming has so long been regarded as one of the more secure vocations that even twenty years of severe rural adversity have not laid the ghost. Farming is secure, it is presumed, because farmers normally become property owners and thus have the security of property to grace their declining years. There are, however, two questions of great significance to be raised about farmers' property as a means of attaining security. First, do farmers quite universally become property owners, particularly of land and buildings which are the great form of agricultural wealth? And second, does farm ownership always confer security?

The answer to the first question has been made only too emphatically. Farm-

[4] *Energy Resources and National Policy*, Report of the National Resources Planning Committee.

[5] Cf., the study by McNeeley and Barton, *Land Tenure in Arkansas*, Arkansas Agr. Exp. Sta. Bul. Number 397.

[6] C. E. Lively, *The Physical Status and Health of F.S.A. Clients in Southeast Missouri.* University of Missouri: Preliminary Report No. 1, April, 1942, pp. 1-2.

TABLE I. PROPORTION OF TOTAL VALUE OF FARM LAND AND BUILDINGS REPRESENTED BY EQUITIES OF OPERATORS AND NON-OPERATORS, 1910-1940*

Years	United States		Missouri	
	Operators	Non-operators	Operators	Non-operators
1910	50.2%	49.8%	58.2%	41.8%
1920	46.1	53.9	56.0	44.0
1930	41.6	58.4	43.9	56.1
1940	40.4	59.6	41.9	58.1

* Years 1930, 1920, and 1910 were estimated. Census Data.

ers in the United States do not own the bulk of the real estate they operate. Their equity in farm estate in 1940 is given in Table I. Furthermore, the percentage of farm real estate owned by others than operating farmers has increased with each decennial census until at present it is pretty much the exceptional state in which operating farmers have on the average as much as a 50 per cent equity in the land they operate.[7] That is, the ownership of farm land that is presumed to confer the needed security to the nation's farmers has pretty much migrated into the hands of nonfarmers.

However, not always does farm ownership confer a great deal of security. To provide security for its owner a farm must have some value. Just how great a value depends upon many circumstances; but farms *worth* no more than a few thousand dollars can hardly confer much more than a few years' security after working days are over. Many present-day farms in the United States are worth no more than this amount and a large proportion are worth less than $6,000. Perhaps it is not too much to say that farms fully paid for, worth less than $6,000 provide only a very modest security for the period after the owners have retired from active work. Urban people with no more than $6,000 of paid up annuities would not count themselves as entering a secure and serene period of old age. Yet in twenty states of the Union, the 1940 average value of land and buildings was less than $6,000 and in 36, or 75 per cent of the states, average values were under $8,000. (Figure I) Even these data are an understatement of the situation since there are more counties with farm real estate values averaging below $6,000 in states with averages above this figure than there are counties averaging above $6,000 in states with an average below this figure.

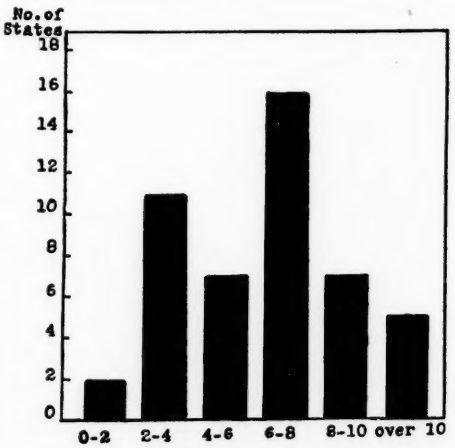

FIGURE I

Furthermore, Table I shows graphically that even this ownership is more nominal than real since almost 60 per cent of the value of rural real estate is owned by others than the operator. It may be argued that the above data omit farmers'

[7] H. A. Turner, *A Graphic Summary of Farm Tenure*, U. S. D. A. Misc. Publ. No. 261, 1936, p. 4.

investments in other things than real estate. This is a feature of the tenure picture on which we need more research, yet the fact remains that farmers have not been very successful in making investments in farm property itself.

Tenure and Equality

Tenure problems would have little vitality in the United States if there were not always in existence a surging drive for equality. The drive is not unsophisticated. It is a drive for equality in opportunity first and in income, wealth and status secondarily. In tenure the matter of importance is the inequality in income. Those who have little incomes can own little land. And title to such land as they do own is likely to be taken from them by those who, because of their larger incomes, are able to save more and hence to invest more. Farm tenancy has risen and farmer equities in real estate have declined about as rapidly in periods of favorable, as in periods of unfavorable farm prices. Why? Because in all periods urban people have had the larger incomes and have persistently been able to increase their ownership of all resources of the country including farm lands.

Figures recently published by the Department of Agriculture give the impression that since 1910 farm net incomes per capita have varied from 17 (in 1932) to 46 (in 1918) per cent of nonfarm incomes. Such figures admittedly overstate the case but J. D. Black in his recent book, *Parity, Parity, Parity,* comes to the conclusion that nonfarm incomes in 1940 were from 27 to 41 per cent above farm incomes; furthermore he says that income gap was fairly wide even in the parity base years of 1910-14.[8]

[8] *Op. cit.*, p. 113.

The farm income disparity has therefore been a persistent one and, more than any other factor, explains the steady loss of farm equity to the nonfarm population. The class or classes in society in position to do most of the saving may be expected persistently to extend their ownership of property of all kinds to those in a less favorable position to save. Farmers apparently do save more out of a given income than nonfarmers but the income handicap is apparently too great. The disproportion in ability to save is, indeed, much larger than the disproportion in income as between these two classes since percentages saved out of larger incomes are greater than those saved out of smaller incomes.

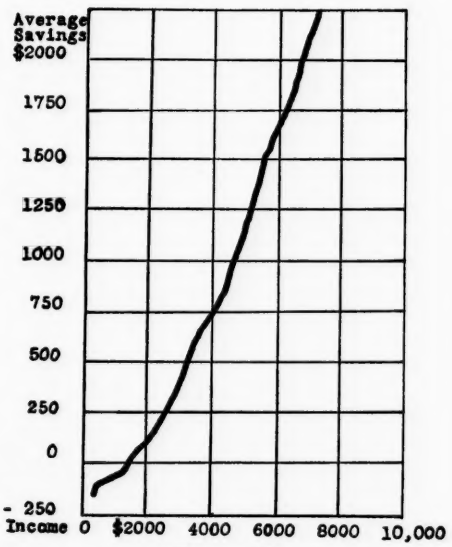

FIGURE II

Amounts saved in relation to incomes are given in Figure II, adapted from data included in the National Resources Planning Board *Report on Consumer Expenditures in the United States.*[9] Savings for

[9] *Op. cit.*, p. 38.

the average American family, according to these data, did not begin (during the years to which the data apply) till incomes reached about $1,300. Furthermore, they amounted to less than $200 per year even when incomes reached $2,000. Only when incomes were large were savings considerable.

Farmers with a 30 per cent disparity in incomes may have a 50 per cent disparity in savings and, if the income disparities persist, may be expected to continue their loss of equity. Tenure, from the viewpoint of those favoring owner-operatorship, can therefore be expected more easily to grow worse than to improve. Indeed, if farmers extend their equities under present income disparities, they will do so by wringing out of their smaller incomes so large an amount of savings that they take titles away from those much better situated to keep them.

Brandt states: "While with great toil and expense the Farm Security Administration has assisted 20,000 tenants in four years to become owners, a multiple of that number became owners by their own initiative without public assistance and the number of tenants proper, excluding share croppers, dropped by 330,000 within five years. The lesson, as I read it, is that relatively moderate institutional adjustments will alter the powerful sway of forces of private initiative sufficiently to bring about the desirable shifts in proportion and performance."[10] Just what "forces" were altered is not too clear since the situation with respect to income and savings had apparently not changed radically. A less optimistic view might have questioned whether the shift means much considering the fact that for farmers as a group the loss of equity continued. Perhaps all that happened was that farm values were so low in 1940 that, with an improved outlook, even little-income receivers dared to risk a down payment on some farms.

One further aspect of the matter may give some comfort to those wishing to take such comfort. That is, the tenure pattern in the United States is drifting rapidly toward that which has existed for centuries in England. In that country, tenancy is virtually universal and farmers do not own their land. The implication is at times that these English farmers do not care to own their farms; but this is absurd, first, because nowhere in the world does land ownership confer greater status than in England, and second, because the English migrants to this continent have given such impressive evidence of their desire to have ownership. The fact is, of course, that English farmers as a group have never received sufficient incomes to compete with the great financial and mercantile classes (with which the little Island has been packed) for the ownership of farm real estate. The income supremacy of these same classes in the United States, since the free land frontier has passed, is enabling them gradually to establish about the same system in this country and the American farm operators' desire to own may be on the way toward being as firmly thwarted here as in England.[11] The process appears to be on its

[10] Karl Brandt, "Toward a More Adequate Approach to the Farm Tenure Program," *Journal of Farm Economics*, February, 1942, p. 215.

[11] Brand's comment ("*In fact, it is the great wisdom of English tenancy legislation that, during a long and bitter struggle for reforms, strictly economic thought has prevailed throughout and reform legislation has been kept free from even the slightest tinge of charity and social relief, with the result that the supposedly inherent evils of tenancy disappeared*") appears to us altogether too optimistic an interpretation. May it not be true that English farmers merely learned to take gratefully what a dominant financial and commercial class parcelled out to them? The servility of the English farmers to the landed aristocracy of Britain as compared to the upstanding self-respect of the mid-western

(Footnote 11 continued on page 75)

way most rapidly in areas near to the major cities and in areas, notably Iowa, where the land is particularly good and particularly worth owning. Americans may accept less easily than the British this pattern of tenure, however, and the drive for equality may continue to actuate reform in this country to a greater extent than it apparently has in England.

The nature and causes of inequality between farmers and nonfarmers are, however, deep-seated. There are, of course, the differential birth rates throughout the country, the unequal health facilities as between rural and urban areas and, in the South, troublesome problems of status. Most regrettable of all aspects of rural-urban inequality are, however, those of educational opportunities which are, after all, the great key to all opportunities. The schools of the nation are, in general, best in the largest cities, poorer in the smaller municipalities, still poorer in the villages, and even more so in farming communities, and poorest of all in the poverty stricken farm communities. Slum children of the cities often can grasp the hands of able teachers in well-supported schools in their effort to improve their situation but for the bulk of farm children that chance is less often available. No matter is more important for the future of farm tenure than this inequality of educational opportunity. In the race for ownership, farm children compete not only with those having much greater incomes but with those having a greater advantage in training as well.

Tenure and Efficiency Objectives

Greater efficiency is sought in connection with the drive for greater income but it may be independent of that objective. The drive for efficiency probably transcends the drive for mere owner-operatorship of farms. Many parts of the tenure picture as it exists today are a serious offense against efficiency in agricultural production. The "one-negro-o n e-m u l e-and-forty-acre" cropper tracts of the south probably rank first in the scale. Second come the self-sufficing farms of the Appalachian coal plateau, Ozarks, and Lake States' cut-over areas; and third, the F. S. A. rehabilitation loan clients everywhere. There are others as well, and in total they make up a group of perhaps 2,000,000 farm families constituting the least well equipped, the most untrained, and least well-financed sector of the farm population.

Just what complement of land and equipment, expressed in terms of value, these people use in their efforts to produce is not easily determinable. Probably $1,000 to $2,000 would buy the bulk of them out. The objection that perhaps they could hardly be expected to use additional resources at all is true only because they are on the whole so poorly equipped with the skills that may be acquired by training. The productive equipment per worker in modern industry must often be six to ten times that available to these poorer farm operators. Yet it is from this class that a larger number of city workers have been and are being recruited, city birth rates being what they are. If these people can be brought to the cities and be taught to use technical, industrial equipment they should be able to acquire the needed skill to use much greater agricultural resources as well.

This matter cuts far deeper than mere efficiency in farming, however. Considering the equipment available to them, these people must for the most part be badly underemployed in a very significant sense

American farmer is proverbial. Mere admiration of English tenure reform has little place in the United States unless it is desired that American farmers take on the same protective coloration that British farmers have found advisable.

of that term. The most important advances in economic theory during the last decade have been the advances in the theory of employment. Full employment has become a major objective of national economic policy. But full employment may still fall far short of attaining full *efficiency* in employment. This point has not been sufficiently emphasized; and it is in this connection that the farm tenure of this underemployed third of our farmers becomes of great significance. These people are the great pool of labor that is still to be drawn upon to advance the national income. Perhaps the efficient use of their labor is the outstanding problem of our economy since it contemplates virtually the whole of the problem of the South and other regions as well.

Quite certainly most of these people should not continue in agricultural production. To continue them there means to continue their underemployment. Furthermore, to improve the tenure pattern farmers need to operate much larger farms in terms of productivity. Larger farms cannot be provided unless means are found to transfer many present-day farm people into urban industry. In a very important sense, therefore, industrial education should begin upon the farm—a fact that will be referred to later in this paper.

How many people should be transferred from agriculture to attain these objectives of full and efficient employment? An approximate answer is not too difficult to provide. The less productive half of the farms of the nation produces little for the market. Baker states that "This less productive half of the farms produced only 11 per cent of the products 'sold or traded' in 1929."[12] In a more recent analysis Ellickson and Brewster[13] classify 2,700,000 farms as inadequate and marginal on the basis of the income and employment they provide. They count only 4,000,000 of the 6,100,000 farms enumerated by the 1940 census as bona fide farm units and of these only 1,370,000 were counted as large scale or adequate from the viewpoint of productive efficiency. Of the 2,700,000 inadequate and marginal units these men say "A shocking waste of manpower in our farm plant occurs on these inadequate and marginal farms. Were our farm plant reorganized so as to permit the general application of the technology now prevailing on the adequate farms, the 2,700,000 inadequate and marginal farms would be replaced by 700,000 farms, giving a total farm plant of 2,000,000 family farms plus the present 60,000 large scale farms."[14] Reconstituting the inadequate and marginal farms into adequate units would, according to Ellickson and Brewster, release 1,500,000 men for employment off the farm.

From the tenure viewpoint there may be a compelling reason for reconstituting these inadequate and marginal into adequate farms if the family-owned and operated farm is to remain a dominant type of farm tenure. That is, considerations of efficiency are important to society and no tenure system, however desirable for its own sake, can hope to escape castigation if it makes poor or inefficient use of labor. In fact, a system making an inefficient use of labor could be maintained only by law and policing since competition would, otherwise, force its demise. It is not difficult to believe that a part of the present day attenuation of owner-operatorship is due to its displacement by other more efficient

[12] Cf., *A Graphic Summary of the Number, Size and Type of Farm and Value of Products.* U.S.D.A. Misc. Pub. 266., 1937.

[13] "Manpower and the American Farm Plant," *Land Policy Review*, May, 1942.

[14] *Ibid*, p. 19.

forms of tenure. Certain developments in the United States point in that direction.

The two developments of the twenties and thirties that are relevant in this connection are the rise of the commercial farm management services and the development of farm management services within their own organizations by companies with great land holdings. Had the wave of foreclosure of the thirties occurred twenty years earlier, almost certainly the response of insurance companies and others would have been to turn back the farms to share or cash tenants on a minimum supervision basis. So great was the lag in the operating efficiency of farmers in relation to available technical knowledge in the thirties that these companies quite universally felt it necessary to employ specialists to provide at least some of the expertness that farmers themselves had failed to acquire. Unless some governmentally sponsored programs intervenes, this new feature in tenure will advance and farmers will less and less manage the farms they operate; and there will be a growth of absentee ownership and a widening gap between available technological information and the average farmer's technical and managerial competence.

What is developing in this country is a squirearchy of varied patterns but different from that in England. In other words, a country gentry is undertaking what its apologists call the "arduous duties of ownership and finance"; and indeed these are sometimes arduous and always essential. In the South the country gentry pattern is already in existence. In California and on the West Coast great corporate farms have found a firm foothold. In the Middle West the impending typical pattern will apparently be the ownership not of large contiguous tracts of land by an overseeing owner, but of many scattered tracts by absentee owners who will increasingly use commercial concerns as their management agencies and whose contracts with operating tenants may be expected continuously to decrease. However it is somewhat difficult to measure the advance of squirearchy, particularly in the Middle West. During the depression there developed a considerable buying of farms by urban non-operators as an inflation hedge. The war period may witness the continuation of this development. Data currently collected in Missouri and Illinois indicate a trend in that direction. It may, furthermore, be difficult to check the development of these types of squirearchy.

The trend toward the establishment of a squirearchy will be regretted most by those in sympathy with a strong preponderence of owner-operatorship, but by others the development will be counted a very satisfactory means of bringing greater efficiency to the farm. The commercial farm management services will be very much of that opinion. The Farm Security Administration will inadvertently contribute toward this development in many cases by its provision of free technical and management supervision that many landlords are already using to advantage. To the extent that ownership and status are associated, there will be a decline in status as farmers accept a more and more subordinate position as managers. Farming will become even more of a business and even less of a home- and community-making matter. Efficiency in production may easily rise by leaps and bounds, however, considering the gap between available technical knowledge and the use made of it under present circumstances and the possibilities of increased use under these forms of supermanagement. However, owner-operatorship as now contemplated will be slipping more and more into the discard.

The thing most to regret in the matter is the schism that is opening between the ideal held by the proponents of owner-operation and facts. A counterpart of this schism has developed in the business world. That is, with stiffer and stiffer anti-monopoly laws, the drift (as Berle and Means,[15] and others have so ably pointed out) is toward greater and greater concentration of control in American business and industry. Competition is the ideal. The drift is toward monopoly. Tenure discussion almost universally extols owner-operatorship. The drift is, in fact, in the other direction and as the gap between the goal and fact widens, a cultural lag is created that will prove troublesome in time unless ideals are changed or developments brought more closely into harmony with the ideal.

For the purpose of the present paper, however, there is one further point. Efficiency, too, is a social ideal and one may infer from the drift in tenure affairs that it may be a much more powerful ideal than that of operator-ownership of farms. The developing situation, therefore, is the presentation to society of a choice between two somewhat incompatible ideals. The incompatibility may be a matter of fact rather than necessity but the strain needs to be relieved and little that is actually being accomplished under present programs promises the needed degree of relief.

Proposed Program

If the analysis of the facts of the farm tenure situation in the United States in the preceding section of this paper is essentially correct, a program of reform with an emphasis substantially different from that now in existence is called for. The program that is offered herein is based flatly upon that analysis and embraces what the author feels to be the needed elements of any program that is to cope adequately with the causes of the tenure problem. The program outlined is one that views tenure problems largely from the human angle. That is, good human material is a primary requisite for a good tenure pattern. As far as he was able, the author has arranged the design to take account of the existing institutional structure of the country.

A Pre-Ordained Pattern for Tenure?

Before going on to specific aspects of the proposed program, however, certain preliminary matters need to be settled. First, no attempt will be made here to forecast in exact outlines what the tenure pattern should be.[16] Tenure is dynamic with differing systems suiting different periods and a constant adjustment is always in progress. Furthermore, there already exist a number of tenure systems or situations in the various sections of the country and these represent, at least in part, desirable variations. Changes in one area, therefore, will not and indeed could not be the same as changes in another. The program needs to be flexible and no model tenure system is proposed. Tenure systems are indeed a result or expression of other forces, chiefly the drive for income, security, equality and efficiency; though this is not to say that tenure ideals do not have some independent status as well. The more fundamental drives of society also affect or even determine the tenure system and that fact is given full recognition in what is to follow.

[15] *The Modern Corporation and Private Property* (McMillan Company).

[16] A position radically different from that taken by Paul V. Maris in the *Land Policy Review*, July, 1941, page 34 ff.

However, the idea will be retained that owner-operatorship is or can be made a desirable element of the tenure pattern and that the country squire or landed aristocracy and city-man ownership types of tenure are on the whole something the nation wishes to hold within bounds. Progress under any plan is likely to be so slow that conditions (as in the current war) are likely to get worse before they get any better. The city man and the country squire type of ownership (particularly the former) may keep on increasing their hold on the farm land of the country for a time.

Furthermore, the suggested program will be frankly aligned to situations developing in an expansionist rather than in a stagnant economy.[17] Policies to adopt to insure expansion or to cope with unemployment are still in the formative stage but the disgust of the nation with the unemployment and stagnation of the thirties is clear. The war program has given impressive evidence that unemployment may be conquered. Many feel that the oncoming peace will place upon the country burdens that will make imperative a continuance of a high level of production. Furthermore, governments from now on are likely to be increasingly judged by their programs for maintaining full employment and this fact will go far toward insuring adequate and effective programs regardless of the party in power.

[17] Cf., A. H. Hansen, *After the War—Full Employment*, National Resources Planning Board, January, 1942; and his *Fiscal Policy and Business Cycles*, (Norton and Co., 1941), and the pamphlet, *Guides to Post-War Planning*, National Planning Association, November, 1951; also, Sumner H. Slichter, "The Conditions for Expansion," *American Economic Review*, March, 1942.

Farm Security Administration

There is so much to praise in the program of the F. S. A. that the author is reluctant to find any fault with it whatever. Accomplishments, furthermore, have been genuinely great and apparently much more is to come. Of great importance is the fact that the F. S. A. program gives access to credit to those who, heretofore, had little opportunity to obtain it and lowered the cost of such credit to those who formerly paid the most. Since credit is one of the great forces increasing the range of inequality in income, this is an advance of some importance. The advent of the F. S. A. gave to those poor in goods and training an advantage that formerly resided entirely at the other end of the income chain.

Despite these and other important contributions there is a major gap in the design of the F. S. A. and its program. This gap may be traced directly to the situation confronting its progenitors when they were considering in 1936 what should be done. In a period of persistent national unemployment the F. S. A. was a useful tool and if the country faced persistently the same outlook, about all that could be said would be "Amen." A period of defense and war expansion has introduced other perspectives and reveals the F. S. A. program as too much stamped by the viewpoint of the period in which it was formulated.

First, born in a period of stagnation, its program is based upon the major strategy of easing rural poverty in place and that, in fact, is exactly what it has done. The benefits derived have been unmistakable; but a program of ameliorating poverty in a stagnant economy is not the design needed for comprehensive accomplishment in an expansion period.

Second, despite the aid it gives to those who need it most, the F. S. A. program can hardly escape the charge that it encourages people to remain on farms. A multiplication of small farms can have no other result in the United States than to increase the inefficiency of production in general and to promote inequality and insecurity for the small farmers and farmers in general. What is needed is fewer, not more, small farms.[18]

Third, the credit and the training which the F. S. A. provides are both of the type to equip people to make a subsistence agriculture endurable in a system with 2,000,000 or more inadequate and marginal farms. Training the population to endure poverty is not the road to efficiency in an expansionist economy.

Fourth, even in its tenant purchase aspects the program is a one-generation amelioration program. The father gets a loan at 3 per cent and sufficient instruction and help to pass him on to the ownership rung of the ladder. At that point, the program virtually stops since provision for training the son to take his father's place is evidently considered a distinctly secondary matter. That is, the son is born into an overcrowded, low income occupation and must attend schools that are usually seriously inferior. Under the present procedure there will certainly be a second generation of tenant purchase clients needing about as much help as the original clients and still later a third generation no better equipped than their fathers and grandfathers.

Finally, no part of the above is to be taken as an expression of regret for the F. S. A. program. This agency gave so many helplessly down-and-out and badly located people a renewed chance to recapture their self respect that the entire nation owes it a vote of thanks. F. S. A. clients, it may be ventured, are more loyal citizens than they would otherwise have been. The point is rather that another day calls for other procedures and that the present program of the F. S. A. is not quite that which would have been chosen by those interested primarily in income efficiency and equality rather than security. Yet these three cannot be overlooked or even minimized in an adequate approach to the tenure problem.

Fundamentals of the Needed Program

Certain fundamentals of the needed program are by no means difficult to outline. In the first place it should be integrated with the drive for full and efficient employment. Second, its basis should be one of equalizing opportunities by equalizing training and education; the credit and financial aspects of the program should be auxiliary and supplementary. Third, it should be organized to correct in time income inequalities that are the basis for many tenure difficulties. Fourth, those choosing agriculture for an occupation should do so not because they have nowhere else to go but because they feel particularly attracted to it as a business and a way of life.

Fundamentally the program must have as its objective the equalization of resources in wealth, income, and training, so that farmers may be placed on a par with other groups in the national economy. When farmers are on a par with

[18] Cf., for instance, the letter of H. C. Taylor giving his reservations with respect to the report of the President's Committee, p. 24 of the Committee's Report. He states, "The proposals contain the possibility of doing more harm than good to the farming population of the United States by making the entry into land ownership easy and by increasing the competition in agriculture by encouraging people to be farmers who should enter other occupations. Too much encouragement to enter farming will make it all the more difficult to secure parity incomes for farmers."

others in these respects they will select their own types of tenure and not the tenure now thrust upon them by an urban group or a squirearchy that increases its ownership of farm property with each passing generation. In the program, however, equalization in education and training must take precedence for the simple reason that if wealth and income are levelled without equalization of training and education, the effect will be merely temporary.

Federal Aid for Public Schools. Strenuous effort should be made to strengthen the existing rural schools by a program of federal aids to education. Federal aids should be granted upon an equalization basis or in such a manner as to raise the level of training and accomplishment in rural schools to the national average. The subsidies will need to be granted in a manner so as to stimulate the consolidation of schools, or the transportation of rural children to strengthened town and small city schools. The grants should also be offered in such a manner that negro children gain far greater opportunities than they now have. One of the most wasted resources of the country is the negro population; and improvement in tenure in the South will not take place as long as a great portion of its citizens are unable to qualify for anything better than a laborer or cropper status.

Establishment of Federally-Supported Trade Schools. Mere grants-in-aid to the established public school system will be far from enough, however. Industrial education must begin on the farms and in the villages; and the second element of the program, and one of transcendental importance, is the establishment of a system of trade and occupational schools in all parts of the country supported on a strictly federal basis. The problem is national in scope as many studies of educational specialists indicate. Children educated in Arkansas and Missouri find their way to cities and industries in every state in the Union. The highest birth rates and the greatest potential surplus of industrial labor supply are in the Appalachians, the Ozarks and the South where neither localities or states are financially able to establish and support the needed schools. Present public schools do not and cannot supply the types of training needed. Furthermore, the rural communities and rural states are hardly good judges of the types of schools and the types of instruction for trade schools that will enable their graduates to move most efficiently into art and industry. Only a federal council to which the needs of industry are constantly communicated can effectively administer such schools.

While educators should be responsible for the details of establishment of such schools, some further aspects of their structure and operation may not be amiss here. First, they will need to offer an enormous number of courses since modern industry needs vast numbers of different special skills. Second, many of these skills are acquired promptly and others only after an exacting apprenticeship so that there can be little standardization of time periods for courses such as the division into quarters, semesters, and the like. The turn-over of students in many courses would be very high, and the amount of equipment not only great but constantly in need of change as industrial technology progresses. Working closely with industry a certain amount of borrowed equipment would often be available.

The close integration with industrial demands for labor would also be something new as far as the established public school system is concerned. These now thumb their noses for the most part at the business men and stick to the so-called

cultural way of education. In the occupational schools training could and almost certainly often would be "on demand." That is, classes should be formed on request of industrialists for certain kinds of labor and closed when the demand ceased. An advisory council of industrialists could and perhaps should be established for each school to keep its program from taking on the academic character that it might otherwise receive from continuous administration by traditional educators. Regional diversity of schools would be a necessity with schools offering a particular kind of occupational training most often located near the industry in which its students would seek work. However, location of industrial schools in the areas such as the South and the southern Appalachians near large potential supplies of labor and in areas least equipped to provide the needed training would often be more advisable than location near the industry or industries to be served.

Methods of recruitment of students would need to be quite different from those existing for present academic schools. Seldom or never would the entrance requirements be based upon academic achievement or intelligence quotients. Rather they would be based upon a series of aptitude tests of the kind now often used not only by government but by industries themselves. These tests would or could be carried on by a group of specialists connected with the occupational schools but working more often in the public schools. Tests would be given students in the public schools at an early age and would serve as useful information to both students and parents in the choice of an occupation. The data of such tests would be quite as valuable (perhaps even more valuable) to the administrators of the occupational schools and later to employers as the high school diploma and grade transcript now are to colleges and universities.

Recruitment would have to go one step further. The schools will presumably be large and located at a distance from the homes of many of their students. These students will come for the most part from homes of modest to small incomes. Among their number will, or should be included a great number of the less venturesome young people who normally do not get far from the home farm or village. For these two reasons special inducements may be needed and these can be offered by low cost room and board. The upkeep of the schools could be made a continuous outlet for surplus commodities in much the same manner as these are now supplied to the school lunch program. An integrated social program would be needed for many reasons that cannot be recounted here. Once established, the program of building and campus expansion could be carried on in part under the instructional program for building workers.

Aside from the consideration major to this paper, the effective operation of these trade and occupational schools will have many effects important to the nation. Industrial readjustments could be speeded up not only by changing the training of newly arriving students for new jobs but training old workers for new jobs as well. That is, workers displaced could come back to school for a time to gain new skills more nearly in current demand. Dislocation incident to technological change is one of the major causes of fear in our society. These schools would mitigate that fear sensibly. Secondly, the schools would be available for depression training of temporarily unemployed workers. The costly effects of the long period in the thirties during which workers were unemployed and either not gaining or actu-

ally losing skills is all too apparent now that the country is engaged in a deadly industrial and military war. Aside from the human reasons there are, therefore, important military reasons for such schools. Third, the establishment of the schools will shoulder part of the cost of training workers onto the government and will make the application of minimum wage laws and the wages and hours laws far easier than it is otherwise going to be.

Organized labor should be represented on the administrative directorate of every school. One of the grave difficulties would be to prevent employers from attempting to use the schools and their students for the purpose either of augmenting the labor supply and preventing prospective wage increase demands or for purposes of strike-breaking during industrial disputes. On the other hand, attempts on the part of labor organizations to induce artificial shortages of trained labor by preventing the forming and conducting of classes, the need for which is established, will need to be thwarted. These are administrative headaches of a sizeable order. An industrial economy must cope with such frictions, however.

Training and Credit for Farm Ownership. As a complement to training for the urban occupations, there must be training for farming for farm youth. Fortunately, an established system of vocational agricultural schools is in place, and an excellent instrument for the purpose available. Some 10,000 Smith-Hughes departments are distributed over the entire country in association with public high schools. Many vocational agricultural instructors are, furthermore, carrying on a program of adult education for the farmers in the communities served by their schools.

The operational and financial aspects of farming are quite as difficult and quite as technical when viewed broadly as virtually any of the so-called professions. The ramifications of agricultural science are virtually endless, and of farm management and finance no less so. The professionally trained farmer can accomplish about as much in relation to the untrained man as the professionally trained lawyer, doctor, or preacher can accomplish in relation to lay practitioners in the same crafts.

In the program of training for farming, therefore, the first necessity is to recognize the professional potentialities of agriculture and to plan accordingly. In an economy in which employment is expanding there ought always to be pressure from other industries forcing agriculture to economize to the utmost in its use of labor. Such pressure will more than any other thing lead agriculture to a high performance of its management function and few things could be as salutary from a tenure viewpoint. That is, farmers will be far more competent than at present to establish the tenure patterns they desire when there is continuous pressure on them to produce to capacity and when, with an adequate access to training facilities, they have raised their professional and financial competence to a status commensurate with the tasks of production and management that confront them.

The problem of moving effectively up the agricultural ladder will remain; and the integration of education and credit can help accomplish that. The F.S.A. at present weeds out some who apply for loans but has not and perhaps cannot yet apply comprehensive and scientifically established tests to determine the fitness of the applicant to enter and continue in farming. Yet here too is an instrument ready-made to improve tenure from the human angle; and the F.S.A. rehabilitation program may in a period of expansion be employed as a major selecting as well as financing agency, offering its credit only

to those who have passed examinations and qualifications established in advance. Candidates need not be required to have had vocational agricultural instruction. Such instruction would merely be a help in passing the tests and obtaining the credit. Landlords presumably would often cooperate in the program by demanding that the tenant qualify before giving him the necessary lease.

Furthermore, the examinations should be given first when the applicant requests a loan to establish himself as a tenant and again when he comes, as many will under favorable circumstances, to request a purchase loan. This latter examination would be much more searching than the first and should be based in part upon records of progress as a tenant. No change of F.S.A. policy would be needed to insure such records since account-keeping is already required of all their clients. Agricultural colleges could cooperate to aid more F.S.A. clients to keep the necessary books though income tax requirements may rather abruptly force the keeping of records on the part of farmers. Accreditation for loans could be made by a special cooperative committee with representation provided for a number of public agencies interested in agriculture and set up for that special purpose.

Conclusions

(1) Despite the fact that early American society probably set few ideals above that of having all farmers own their farm, modern society with its heavy industrial and urban populations undoubtedly is less concerned over the matter of farm tenure and probably also has a different set of values. The tenure ideal is apparently, therefore, becoming more and more a subordinate one ranking well below those of income, security, equality and efficiency. (2) The drift away from owner-operatorship is still far stronger than the relatively weak programs that society has adopted to reverse the trend, which fact probably indicates a declining concern for the ownership ideal. (3) Tenure difficulties are basically human, though tenure research has not emphasized that fact. A good tenure system cannot be made out of poor or impoverished human material. (4) Existing programs emphasize cheap supervised credit and while valuable, need to be articulated with an educational program to raise the level of competence of the low income section of the farm population. (5) To achieve such an objective will apparently require not only federal subsidies but a somewhat different tradition of education than has existed heretofore in the United States.

(James H. Marshall, Regional Research Supervisor of the Division of Land Economics, gave very generous help and advice to the author in the preparation of this paper but he is under no circumstances to be counted as responsible for any of the conclusions expressed herein.)

Urban Land Department

Applications of Residential Data from the Chicago Land Use Survey

ONE of the most comprehensive sources of detailed data ever compiled is available for Chicago as a result of the Chicago Land Use Survey, a WPA project under the sponsorship and technical direction of the Chicago Plan Commission. After more than three years of work, the first phase of the survey, covering residential and housing statistics, is now complete, and available.

Of great value to city planners, land economists, public utility officials, and all others who are responsible for the planning and execution of public and private improvements, as well as to students of city growth and structure, the Land Use Survey data afford the opportunity for detailed analysis of a great metropolitan city or any portion thereof.

The most significant data for the city as a whole, and for the 75 local community areas into which Chicago has been divided, are brought together in a 500-page volume, *Residential Chicago.* The volume also contains maps which show, for every block in the city, sixteen of the most significant residential factors, including number of structures and dwelling units, percentage of structures which are single-family, conversions, age of structures, condition of dwelling units, sanitary facilities, encumbrance status, median rental, owner and tenant occupancy, persons per room, number of roomers, and several other factors indicative of the character and intensity of housing in each block. By the use of these maps city-wide patterns of residential development may be seen almost at a glance.

In addition to *Residential Chicago,* a large number of tabulations give detailed facts regarding hundreds of significant indices of housing conditions, as well as correlations and interrelationships between many of them for the city as a whole, and for various geographic units within the city, including 20,200 city blocks, 935 census tracts, 911 quarter-square miles, and 75 community areas. For the latter, detailed cross-relationships of the various facts are revealed by a series of 141 tables for each community. These tables have also been compiled for the city as a whole. By the use of the tables for these various areal units, comparability for study of trends is assured with other sources of basic data including the federal census. The tables are available for consultation at the offices of the Chicago Plan Commission and at the Chicago and Washington offices of the Federal Housing Administration and the Federal Public Housing Authority.

The enumeration, a canvass of each dwelling unit in the city, was carried on during the summer of 1939 by hundreds of carefully-trained workers who entered on the field schedules a wide variety of data including the nature of the land use, the original type and date of conversion of converted structures, condition, encumbrance status, exterior material, occupancy, duration of occupancy or vacancy of each dwelling unit, rental, facilities and services included in the rent, sanitary facilities, heating, lighting, cooking and refrigeration equipment in each dwelling, the number, age and sex of the occupants, number of roomers and extra families, and the race and nationality of each household. All of this information is available in table form, and much of it has been mapped. Many tables and maps which are believed to be of widest interest and utility have been included in *Residential Chicago.*

Single-family detached residential structures constitute 41 per cent of all residential structures in Chicago, but contain only 15.7 per cent of the dwelling units. On the other hand, apartment buildings each containing five or more units, although constituting only 6.1 per cent of the residential structures, contain 31.6 per cent of the dwelling units. Median year built for all residential structures was 1906; median rental, $33.94

per month. Only 25.1 per cent of the dwelling units were owner-occupied.

Both in the war effort and as the basis for an intelligent consideration of problems of post-war planning and development, the Land Use Survey furnishes a comprehensive source of basic data regarding the City of Chicago.

The Chicago Plan Commission, Federal Housing Administration, and other local and national agencies are making use of the Land Use Survey data in estimating for Chicago as a whole, as well as for specific areas within the city, the need for additional housing to accommodate in-migrant war workers, and the potential additional population which may be housed by the doubling-up of families, by the taking in of roomers, and by the conversion of structures to provide additional dwelling units within access of war industries, where the zoning ordinance permits such conversions. The Survey provides detailed information on the number of roomers and extra families in every dwelling unit in Chicago. Although now somewhat out-of-date, these data have been used as the point of departure in a study of recent war housing problems. The areas in which the situation has radically changed since the enumeration in 1939 are well known, and adjustments of the data are easily made.

Although not intended as a population census, the Land Use Survey does show the total population in dwelling units, and its composition by age and sex, by blocks, and by larger areas. This information was of considerable value to the Office of Civilian Defense when that agency undertook the subdivision of the city into zones and districts for its activities. In collaboration with the Plan Commission, the OCD used the data in apportioning for each areal unit the areas with approximately equal population. The age and sex distribution of the population within each block was also of great value to the Plan Commission in determining, as part of its master plan for recreation development, the need for additional park and playground facilities in each section of the city.

By using the Land Use Survey data as the primary source of information, the Chicago Plan Commission is now developing a master plan for future use of the present residential areas. These areas have been subdivided, block by block into eight types, within each of which the general residential characteristics of and the problems involved in planning are somewhat similar. These areas have been defined by the coincidence of various factors revealed by the Survey, including rental, condition of structures, crowding, physical adequacy, etc. The eight types of areas—blighted, near-blighted, conservation, stable, arrested, progressive development, new growth, and vacant—define the scope and character of the building requirements, and establish a time-sequence based upon the relative urgency of rebuilding. Except for the blighted and near-blighted areas,[1] the age of existing structures was used as one of the principal criteria. A forthcoming publication will delimit the areas in detail.

The Land Use Survey obtained and tabulated the age of structures from the records of the Cook County assessor's office. These data are believed to be considerably more accurate than those obtained by the United States census because the assessor's records are, in turn, based upon actual building permit records.

As a preliminary procedure to the field enumeration, records were transcribed in the assessor's office covering, in addition to age of structures, the full valuation of land and of improvements, as well as detailed identification of each land use. Age, valuation, and several other factors were tabulated, by blocks and by larger geographic units, and were related to many other facts revealed by the enumeration. The city-wide summary tables and the totals within the various class-intervals were published in *Residential Chicago*. Additional tables for blocks and larger units may be consulted at the Chicago Plan Commission offices and in Washington. This marks the first time that the assessor's records have been summarized and tabulated in convenient usable forms for purposes of analysis and planning.

Interesting relationships are revealed by the Survey. For example, it was found that 11 per cent of the frame structures

[1] For definition of *blighted areas*, see Robert C. Klove, "A Technique for Delimiting Chicago's Blighted Areas," *Journal of Land and Public Utility Economics*, November, 1941, pp. 483-484.

were in need of major repairs or unfit for use, as contrasted with 3 per cent of the brick structures.

Although much of the information gathered and presented by the Land Use Survey will become out of date rapidly, considerable material is of permanent value. The data on vacancies, for example, are no longer usable but the geographic distribution of structures by type, revealed by the Survey, will be of considerable value and usefulness for many years.

Because of the varying rates of obsolescence of the data, keeping the Survey information up to date will not involve continual revision of all of the figures. Information on occupancy, in order to be usable, must be revised at least once each year, but data on the geographic distribution of structural types need be re-interpreted only once in several years. The records of the county assessor and the city's commissioner of buildings will furnish a valuable and easily used source of up-to-the-minute data on new building types, changes in valuation, conversions, and other significant trends in the development of the city, which may be more easily interpreted with the existing survey as the point of departure. Plans are being formulated for the continuous revision of portions of the data which change rapidly, and for periodic resurvey of information which is not in such continuous state of flux, to the end that the Survey may continue to serve as an encyclopedia of information for all persons interested in planning, executing, or financing the building of post-war Chicago.

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Urban Planning and Public Opinion

THIS most recent study by the Bureau of Urban Research at Princeton University gives food for thought to all those interested in housing, city planning, and better urban living generally. The food value lies not so much in the findings of the survey itself as in the basic technique which it employed.

The time is ripe for those who are concerned with the future housing needs and urban land problems of this country to take serious account of what the public who use the houses and live on the land think about how those facilities are provided and those resources distributed.

The technique of the public opinion survey would seem to be a constructive step in the direction of closing the gap which now exists between the suppliers and the demanders of urban housing facilities. The technique here employed may not be the final answer but it certainly opens up a new realm of possibilities.

As far as this particular study is concerned, no one will quarrel with its stated objectives. The public opinion survey does bring the public into the picture instead of ignoring it; it does bring out some of the psychological, instead of only the economic and physical aspects of planning; it does offer a valuable new tool; it should also stimulate interest in urban planning; and it *does* supply a means of getting more and better factual data for planning.

Obviously, the technique is not yet perfected. It needs further development. The hope is expressed here that the questionnaire method, even of the oral-interview type, is not the answer to the need. To contemplate the use of questionnaires to get answers to even the most pressing planning problems is to shudder. The danger is that public interest may become public boredom and then public apathy—if the questionnaire technique is used to the nuisance point.

One other question is raised with respect to the method of the survey. It pertains to the selection of the particular regional division of the United States which was employed. In view of the subject matter of the survey, would it not have been profitable to have chosen a regional division in actual

use by some agency operating in this field of activity? In other words, had the regional division used by the National Housing Agency, the Bureau of the Census, the Federal Housing Administration or the National Resources Planning Board been employed, the findings of the survey could have been placed conveniently in juxtaposition to other pertinent data collected by these agencies with possible profitable results from the comparisons.

Only two findings of this survey are selected for brief comment here. It was surprising to find so large a percentage (two-thirds) of those expressing an opinion indicating their willingness to have the city replace the poorest housing even at the expense of higher taxes for all. The other major surprise was the large preference (again approximately two-thirds) for greater control on the part of the city over the arrangement of buildings and streets should the opportunity for extensive rebuilding be afforded. Obviously, on the basis of a sample no larger than this, the general validity of those two findings is not great. To the extent, however, that they are straws in the wind, they have great significance for the planning which is now in process for the period immediately following the war.

Whether or not the designation of housing as the most important problem facing our cities today is a "surprise" is not a vital question as such. It is a vital matter, however, from a tactical point of view. In other words, here is prime evidence that this is the time for action. The public is aware of the housing problem; and this is true of all economic and all educational group surveys. The report does not reveal—and this may be significant—the facts in terms of geographical areas or city-size groups. Nevertheless, this awareness should make the public receptive to leadership which formulates and seeks popular support for sound urban housing and planning programs.

Another aspect of the findings of such reports deserves brief comment. That is the matter of interpretation of the results. For example, a very large proportion (86 per cent) of those who own their homes are glad that they do. Undoubtedly this statement is true, by and large, but it is also important to bear in mind the possibility that some at least would reply to that question in the affirmative out of sheer reluctance to admit a bad investment if they made one. Similarly, a question arises concerning the 39 per cent of those interviewed who desire no improvements to make their neighborhoods better places in which to live. Why? Was the answer prompted by fear of higher taxes, or what?

In other words, wherever the human imponderable is involved, a question of interpretation is always involved with the consequent need to push the inquiry one step farther. This is not to say that therefore nothing has been accomplished by the initial query. Rather it supplies a guide to future procedure.

The authors of the survey admit that their questionnaire was experimental in character and the criticisms which are made here are intended to be constructive rather than destructive. What they amount to is a suggestion that the technique of the public opinion survey be pushed farther in an attempt to get, not information on additional topics, but more illuminating information about those already covered. For example, would it not be possible to discover the reaction of people to the question of whether they would want to live in closed-in urban areas if they are rehabilitated? The answer to this question is urgently needed in view of the extensive talk and plans now current for the rebuilding of downtown areas, particularly in our larger cities. Such information, correlated with that on present location and type of accommodations of those answering this query, would be a valuable guide in planning rehabilitation projects.

Another thing we should know, and know soon, is popular preference with respect to single-family versus multiple-family living. The questionnaire asked whether the interviewed preferred owning or renting his living quarters but it did not go on to ask those who voted for rental accommodations what type of quarters they preferred—a house or an apartment.

We must also know what people think about row-housing—another type of housing which is receiving a good deal of enthusiastic attention these days on the part of city planners generally.

Finally, a valuable bit of knowledge would concern popular preference for large-scale versus small-scale projects.

It is fully recognized that the problem of framing questions which will produce the type of information suggested by these latter queries is not simple. Nevertheless, it seems clear, to this commentator at least, that the problem is one which must be solved if the public opinion survey is to become the constructive tool for planning which its authors fondly hope that it will.

Finally, there is a fundamental question which must be asked in the hope that a reasonably useful body of information can be obtained in reply. How many people have a hidden urge to own a piece of land? Many who are thoroughly practical admit that land ownership for them is not feasible—either because of instability of employment, insufficiency of income, or other reasons. Nevertheless, they may still nurse the hope that some day, by some stroke of fortune, they may be able to own a piece of land of their own. Consequently, so long as that urge persists, those people constitute an uncertain group and represent a no-man's land into which housing experts and planners proceed without guide or compass. Given the contagious psychology of a real estate boom or an era of more than usual prosperity, that group is likely to come into the real estate market on the land side and the neatest of calculations and the best laid plans for orderly urban development will be completely upset. Call it "the suburban urge," call it "land hunger," call it what you will; it is a potent but as yet unknown force.

Public opinion includes just such intangible things as this. In short, if public opinion surveys are to be truly valuable, they must by some hook or crook tap these under-currents which can come to the surface and completely alter the carefully planned scheme of living based upon the more obvious elements in the housing and land planning picture.

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Facts from the 1940 Census of Housing

THE 1940 Census of Housing, conducted as a part of the Decennial Census, was designed primarily to provide essential housing facts for local public groups and governmental agencies interested in housing and housing conditions, and for private concerns in the housing and related fields, such as the financing of homes, the manufacture of building materials, and the manufacture and distribution of household equipment. The stupenduous task of collecting, classifying and tabulating the facts about the nation's 37,325,470 dwelling units is now almost completed although a substantial part of the information is still in process of being printed. Nevertheless, it is feasible at this time to report on a number of the outstanding facts brought to light by the Housing Census.

As of April 1, 1940, there were in continental United States, 29,313,708 residential structures — that is, structures containing one or more dwelling units. A preponderant number of these structures have exterior walls of wood, wood being the principal material used for exterior walls for 81.9 per cent of the structures. Brick was the principal material used for 11.3 per cent of the structures and stucco for 4.2 per cent. Although structures with exterior walls of wood predominated in each of the three regions of the country, the preference for other materials was greatest for brick in the North and stucco in the West.

One-family detached structures represented more than four-fifths of the residential structures in the nation and contained 63.6 per cent of the total dwelling units. Less than half (44.8 per cent) of all urban dwelling units were in 1-family detached structures, as contrasted with 83.2 per cent of the rural-nonfarm dwelling units and 96.0 per cent of the rural-farm units. A far greater percentage of the owner-occupied than ten-

ant-occupied units are located in this type of structure.

Structures of five or more dwelling units represented only 1.2 per cent of all structures but included 10.5 per cent of all dwelling units. This type of structure is concentrated almost entirely in urban areas, being more common in the urban places of the North and West than in the urban places of the South.

Of the 37,325,470 dwelling units in the nation in 1940, 34,854,532 or 93.4 per cent were occupied, while 5.0 per cent were vacant for sale or rent and 1.6 per cent were vacant but not available either for sale or for rent. The number of occupied dwelling units may be compared roughly with the number of private families in 1930 as a means of determining the increase in the number of families during the decade. The increase on this basis was 16.6 per cent and represented the smallest increase for any decade since 1890.

The 140 metropolitan districts set up for use in the 1940 census contained one-half of the families in the country. The number of families in these districts increased at a slightly more rapid rate between 1930 and 1940 than did the families in areas outside such districts. Within the metropolitan districts themselves, the peripheral areas gained more rapidly, the number of families having increased by approximately one-fourth between 1930 and 1940 as compared to an increase of only about one-seventh for the central cities. Although central cities increased at a slower rate, the increase in absolute numbers was approximately one and one-half times as great as in the peripheral areas. At present, gasoline rationing and public transportation shortages would tend to arrest at least temporarily the movement to the outlying areas and in some communities may even reverse it.

Dwelling units that were occupied by their owners represented 43.6 per cent of all occupied units. The proportion of home ownership was highest in the rural-farm areas, where 53.2 per cent of all occupied units were owner-occupied, as compared with 51.7 per cent in rural-nonfarm areas and 37.5 per cent in urban areas. Only 23.6 per cent of the units occupied by nonwhites are owner-occupied, as compared with 45.7 per cent for units occupied by whites. Among nonwhites, home ownership in the South was higher than in the North. Of the occupied dwelling units in 1-family detached structures, 57.5 per cent were owner-occupied; but for dwelling units in structures other than 1-family detached, only 19.8 per cent were owner-occupied.

The per cent of home ownership in the United States has declined from 47.8 in 1930 to 43.6 in 1940. Although the number of owner-families increased between 1930 and 1940, the number of tenant-families increased more rapidly, and consequently the home-ownership ratio declined. Urban areas experienced a greater decline in home-ownership ratio than did either the rural-nonfarm or rural-farm areas.

According to the data on year built, the median age of dwelling units in the United States on April 1, 1940 was found to be 25.4 years; that is, one-half of the dwelling units in the country exceeded this age and one-half were less. For dwelling units in rural-nonfarm areas, the median age was 20.2 years, which was about six years less than the median for urban areas and about eight years less than the median for rural-farm areas. The median age of owner-occupied dwelling units was approximately four years less than the median age for tenant-occupied units.

The statistics on year built also show that 9.2 per cent of the dwelling units in existence on April 1, 1940 had been constructed during the period 1935 to April 1, 1940, 6.7 per cent from 1930 to 1934, and 24.5 per cent from 1920 to 1930. More than 2,500,000 units (7.3 per cent of the total) have been standing for more than 60 years. A larger proportion of the dwelling units built during the period 1935 to April 1, 1940 were for owner-occupancy rather than tenant-occupancy. Of the dwelling units constructed during this period 54.7 per cent were occupied by their owners on April 1, 1940, 34.7 per cent were occupied by tenants and 10.7 per cent were vacant (including vacant for sale or rent and vacant not for sale or rent).

The number of dwelling units constructed in metropolitan districts during the period 1935 to April 1, 1940 was divided almost equally between cities of 50,000 inhabitants or more and all other sections of metropolitan districts. Since the number of existing

dwelling units in cities of 50,000 or more represent almost three-fourths of the total units in metropolitan districts, this would indicate a rate of construction in these cities which was only slightly more than one-third of the rate for those sections of the metropolitan districts outside such cities. This comparison is but a rough measure of differences in building activities as between central cities and environs of metropolitan districts since some cities of 50,000 or more are not central cities although they are all situated inside metropolitan districts.

The statistics on state of repair and plumbing equipment showed that on the average almost two of every ten dwelling units were in need of major repairs, and of the remaining eight not in need of major repairs, five had a private bath and a private flush toilet, one had running water but no private bath, and two had no running water in the dwelling unit. For urban areas, about one of every ten were in need of major repairs, and of the remaining nine, seven had a private bath and private flush toilet. In comparison with urban areas, the rural-nonfarm and rural-farm areas showed a larger percentage of units in need of major repairs and a considerably larger percentage of units with no running water in the dwelling unit.

Running water in the dwelling unit was reported for 69.9 per cent of the units in the United States; but for rural-farm areas only 17.8 per cent of the units had running water in the unit, 11.2 per cent had a hand pump in the unit, 56.1 per cent had other water supply within 50 feet of the unit; and 14.8 per cent had no water supply within 50 feet.

A private flush toilet in the structure was reported for 59.7 per cent of the dwelling units and an additional 5.0 per cent shared such toilets, while almost one-third had an outside toilet or privy. A private bathtub or shower in the structure was reported for 56.2 per cent of the dwelling units, a shared bathtub or shower for 4.7 per cent and no bathtub or shower for 39.1 per cent of the units.

The median number of rooms in all dwelling units was 4.73. Four- and five-room dwelling units represented 38.5 per cent of all reporting units, while 34.7 per cent of the units had more than five rooms and 26.7 per cent had fewer than four rooms. Owner-occupied units average about one and one-half rooms larger than tenant units.

The figures for urban and rural areas show that there is little basis for the popular belief that farm families live in larger homes than city families. The median number of rooms for urban dwelling units was 4.78; for rural-farm units, 4.70; and for rural-nonfarm units, 4.61. In the South and the West, urban units were larger than rural units—that is, had more rooms—but in the North, rural-farm units were larger than either urban or rural-nonfarm units.

The median size of household in the United States in 1940 was 3.28 persons. Households of one, two or three persons comprised more than half of the households; whereas households of four or five persons comprised 29.6 per cent of the total, and those with six persons or more, 15.6 per cent. Home owners in urban areas tended to have larger households than tenants but in rural areas the households of tenants were larger than those of owners.

Four-fifths of all the dwelling units in the United States had at least one room per person and almost one-third had two or more rooms per person. On the other hand, nine per cent of the units had more than one and one-half persons per room, while 3.3 per cent had more than two persons per room. The homes of owners were less crowded (in terms of persons per room) than those of tenants; although, as previously stated, owners have larger households than tenants, they also have larger homes (in terms of number of rooms). Of the units occupied by nonwhites, 23.4 per cent had more than one and one-half persons per room, while for whites the comparable per cent was 7.5.

The Housing Census also reveals that 42.0 per cent of the occupied dwelling units had central heating systems and that about one-half of these were steam or hot water systems. Coal or coke was the principal heating fuel used for heating 54.2 per cent of the occupied dwelling units, and fuel oil and other petroleum products were used for heating 9.9 per cent of the units. Mechanical refrigeration was reported for 44.1 per cent of the occupied dwelling units, electric lighting equipment for 78.7 per cent and radios for 82.8 per cent. Almost one-half of the occupied units had gas cookstoves and 5.4 per cent had electric cookstoves.

Conversion of dwelling units into a greater or smaller number of units or from non-residential to residential is indicated by the statistics on dwelling units by type of original structure. It was found that 8.0 per cent of the dwelling units are in structures where a change has occurred in the number of units at some time or other since the structure was originally built. Dwelling units in structures originally built as non-residential structures represented 1.3 per cent of all dwelling units. There are more than three and one-third million dwelling units in these two types of converted structures. No information is available on either how many extra units were created by these conversions or when the conversions occurred.

The median monthly rent for all dwelling units in urban and rural-nonfarm areas was $23.73. These figures include contract rent for tenant-occupied units and estimated rental value for owner-occupied and vacant units. It was also found that 5.4 per cent of the dwelling units had a contract or estimated monthly rental of less than $5 and 28.2 per cent had a rental of less than $15, while only 11.8 per cent had a rental of $50 or more. For owner-occupied units in urban and rural-nonfarm areas the median estimated rent was $27.45; while for tenant-occupied units the median contract rent was $21.41. The median monthly estimated rental for dwelling units of white owners was substantially above the median rental for white tenants but the reverse was true for nonwhites. In the North, the median monthly rent for all dwelling units in urban and rural-nonfarm areas was $26.69, as compared with $24.22 in the West and $13.83 in the South.

The median monthly rent for tenant-occupied units in the urban and rural-nonfarm areas of the United States declined from $27.15 in 1930 to $21.41 in 1940, a decline of 21.1 per cent. On the average, rents for urban units declined more than rents for rural-nonfarm units. The median value of owner-occupied units in urban and rural-nonfarm areas was $2,938 in 1940. The comparison with 1930 showed that the median had declined 38.5 per cent, which is considerably more than the decline in median rent shown by tenant-occupied units.

Although considerable interest has been displayed in the published housing statistics for the nation as a whole and for individual states, cities and metropolitan districts, the statistics for the small areas of a community are being utilized so extensively as to justify fully the emphasis placed in the Housing Census upon data for such areas. Statistics for city blocks and census tracts provide much of the preliminary data required for municipal planning and zoning and for the delineation of areas containing housing of various degrees of inadequacy. Although housing conditions differ widely in each community, the availability of these standardized data for so many cities offers the advantage of a uniform approach and makes possible a diffusion of the knowledge gained by the experiments in individual communities.

Another important use of these statistics for small areas is that of providing a background of basic data to which facts collected by others can be related. Among the public users in this category are the public welfare, health and safety departments of municipalities as well as the social welfare agencies. Commercial concerns, such as advertising companies, chain retail stores, newspapers and sales organizations of manufacturers, find that these data provide excellent material for marketing surveys and for "controls" of small sample surveys.

Executives of financial institutions engaged in home financing operations will find these data exceedingly helpful in analyzing neighborhood trends and in reviewing their home lending policies, both as a means of safeguarding loans already made and in delineating neighborhoods where they are not lending but may wish later to do so. Public utilities constantly use intra-city statistics in the formulation of their programs and plans for the extension of telephone, electric light, gas and transportation service.

The items published for each of approximately one-half million city blocks include the following: Number of residential structures; Number of dwelling units classified by occupancy and tenure, year built, color of occupant, number of persons per room, state of repair and plumbing equipment; Average monthly rent or rental value of dwelling units; and Mortgage status of owner-occupied dwelling units.

The data are published in supplements to the first series of Housing bulletins. A sep-

arate supplement has been prepared for each of the 191 cities having a population of 50,000 or more in 1930. Each supplement contains an identification map of the city showing the outlines of blocks and census tracts or wards. Block numbers as well as census tract or ward numbers are also shown and cross reference of the data to the map can readily be made.

In addition to these identification maps, a separate series of maps is being prepared which presents graphically the block statistics for each large city. Each item of information for all blocks of a city is presented on one map. For example, variations in the average monthly rent by blocks are shown by 10 types of cross-hatching which indicate the various rental levels. In this manner the mass of statistical data for a city is analyzed and presented in a more readily understandable form. These maps, entitled *Analytical Maps, Block Statistics* are now available for several cities and are being prepared for all of the 92 cities of 100,000 inhabitants or more.

Housing statistics for census tracts, presented in greater detail than for blocks, give data on occupancy status, tenure, value or monthly rent, type of structure, state of repair and plumbing equipment, size of household, race of head of household, persons per room, radio, refrigeration equipment, and heating fuel by type of heating equipment. Population data included in the census tract bulletins relate to sex, age, race, nativity, citizenship, country of birth, highest grade of school completed, employment status, class of worker and occupation. These bulletins are entitled *Statistics for Census Tracts*, a separate bulletin being prepared for each tracted city. Where comparable census tract data are available for 1930, rates of change in population, households, median value, median rent, racial composition, etc., which can be computed for the decade of the thirties will be found to be highly illuminating.

Statistics from the Census of Housing have been and are being used by the national and local agencies concerned with the immediate problem of war housing. These statistics will also provide bench-mark data for the various groups interested in post war planning.

A list of the publications now available may be obtained on request from the Bureau of the Census.

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Land Resources Department

Operating a Grazing Association

WHEN the Union Pacific Railroad reached Cheyenne, Wyoming, in 1869, the construction men found an Indian's paradise. Big game was plentiful; and the remains of buffalo horns, arrow heads and camp grounds can still be found on the prairies. The area was described by the pioneers as a fine grass country. The railroad opened up the country; cattle increased by the thousands, and the competition for grass started; but by the 1890's the once lush ranges began to show serious effects from overgrazing. This phase of the history of the range country was followed by homesteading.

When homesteaders began to appear in large numbers, cattlemen were inclined to take steps to make the livestock industry secure by leasing all key water-hole tracts, thereby enabling them to graze the adjoining unfenced lands. Nevertheless, immense quantities of land were taken up in 160- and 320-acre tracts under the Homestead Act. The policy of permitting the homesteading of quarter- and half-sections resulted in a complicated checkerboard land ownership pattern and multiplied the problems of cattlemen.

This land ownership pattern became even more complex at a later date. It was, and still is, one of the factors contributing to land management problems in the West.

For a number of years homesteading proved to be successful since the soil was fertile and rainfall comparatively plentiful. Sufficient moisture gave prevailing high winds less opportunity to carry away rich topsoil. Trouble began during the first World War when large quantities of grasslands were plowed up and planted to wheat. Bumper crops were produced and several prosperous years realized. Some of the comparatively permanent accomplishments of this peak period were the construction of roads, the building of schools and the founding of towns and settlements. Boom days of the homesteaders came and went, just as livestock boom days had first resulted from the bringing in of outside capital and then had waned due to the ensuing exploitation and depletion of virgin grasslands.

About 1925 a decline began which became serious and reached an acute stage of depression during the abnormally dry years of the early 1930's. Drouth, accompanied by high winds, stripped the cultivated fields of their fertile topsoil and caused dust storms which attracted national attention. Crops burned up in fields and livestock had to be sold or moved from the country, leaving a high percentage of the population of some areas in a destitute condition. The 160-acre farms were not large enough for the production of livestock, and the years 1934 and 1935 found thousands of families leaving their homes on account of complete crop failures and the collapse of the economic system in their localities.

Late in 1936 about fifty farmers and ranchers who were living in northern Weld County, Colorado, having suffered serious livestock losses and property damage through drouth and wind erosion, determined to organize on a cooperative basis for mutual assistance and protection.

In addition to wind erosion, the problem of dealing with "tramp herds" had always been one of the major difficulties facing this group. This was a situation wherein cattle owned by non-resident operators were being grazing indiscriminately on Weld County lands without reference to and with no regard as to whether the lands were being properly used. The owners of such herds employed a rider who kept the cattle on the move, and these roving bands of trespass livestock threatened to completely ruin the once "fine grass country."

Another factor which strengthened the resolve of the fifty ranchers to form a grazing association was the presence of a government program in Weld County being

conducted by the Department of Agriculture. This program had as its objectives the retirement from use of submarginal lands which were being cropped, the revegetation of such lands and their return to proper use. Another objective was to increase the size of operating units which were too small to provide a suitable standard of living.

Weld County lies outside of the great mass of land which remained in the "vacant, unappropriated and unreserved lands" of the original public domain at the time the Taylor-Grazing Act was passed in 1934. Only a few minor tracts of public domain or state land are found in this area; the land was practically all private property before the U. S. Department of Agriculture bought the land under the program described above. In the region farther west, grazing districts have been set up on lands once public domain but now under the control of the Grazing Division of the Department of the Interior.

Farmers and ranchers in northern Weld County were advised by government representatives that lands being purchased to carry out the objectives of the program might be made available, when such lands were properly developed, to a cooperative livestock association or district for joint use by qualified members. This factor encouraged Weld County residents and expedited the formation of the Crow Valley Grazing Association.

Colorado has a Law for Cooperatives under which a "grazing association or district" may be formed which has legal standing as an instrumentality of the state; and so a committee of ranchers was selected to draft association objectives and to apply to the state for a charter in the name of the "Crow Valley Livestock Cooperative Association." The charter was granted by the state and included the following objectives: (1) set up economical livestock units to further agricultural pursuits; (2) make possible the acquisition, control, conservation, and proper use of certain grazing lands in Weld County, Colorado to the end that members of the Association might stabilize their farming and ranching operations: and (3) take other related measures not forbidden by law.

The directors of the Crow Valley Grazing Association decided to have the Association boundaries conform to the boundaries of the Federal Land Use Adjustment Project referred to above, an area of approximately 280,000 acres. At the time the Association was formed, the prospective members owned or leased, as individuals, approximately 100,000 acres of land. The Department of Agriculture had purchased approximately the same amount. Of the remainder, most was owned by non-resident individuals, and a small per cent by resident individuals who did not care to set up an operating ranch and belong to the Association. Small scattered tracts were also owned by the state of Colorado, Weld County, and the General Land Office.

Administration and Control of Land Use

The first act of the Association was to elect a board of five directors, one from each of five localities. By-laws were drawn up which included the following provisions: (1) Name and location of the Association. (2) Qualifications for membership. A member must be a citizen, reside in, or adjacent to the Association boundaries, be engaged in the raising of livestock, and request grazing privileges. (3) Rules concerning the conduct of meetings. (4) Powers and duties of directors and officers. (5) Finance provisions for operation on a cooperative basis, detailed accounting of the financial condition, grazing fees chargeable against permittees' livestock, and provisions whereby the Association might borrow money for constructing range improvements. (6) A section providing that the Association might lease land for a period of ten years and that members should not compete against the Association for the use of the land needed by the Association for summer grazing.

The next problem faced by the directors and members was to secure control over the use of lands within the area. Since Association members controlled over 100,000 acres of land which they either owned or leased as individuals, it was recognized that if the Association were to obtain the use of such federally-acquired lands from the Department of Agriculture as were

ready for use and lying within the Association boundaries, immediate control over a high percentage of lands within the Association boundaries would result.

Early in 1938, the Association directors entered into an agreement with the Department of Agriculture which provided for the use by the Association of federally-acquired lands located within the area for a period of ten years. Approximately 70,000 acres of land were involved. A provision was also made for the use of additional lands as soon as they were ready to be used. Federal officials prepared an agreement which took into consideration many of the problems which would be encountered by the Grazing Association in the management of both public and private lands.

Among other stipulations, the agreement provided that the Association must make diligent efforts to acquire by lease, purchase, or otherwise, grazing privileges upon land located within the exterior boundaries of the Association obtainable upon reasonable terms. Thus the Association would gain control over an ever-increasing amount of land within its boundaries and would make possible an ever-increasing Association membership. The leasing of other privately-owned and county-owned lands by the Association under the policy outlined has proceeded steadily and has reached a figure of about 30,000 acres in addition to the government lands.

Manner, Seasons and Intensity of Use

The Association then agreed that all lands leased by the Association, including government lands, should be used in common by Association members during the summer grazing season, and that the summer season should be a 7-month period extending from May to December. It was further determined that the lands to be used by all members during the summer should be fenced in as large blocks as possible and referred to as "community" or "joint-use" pastures. Lands within such pastures which were *not* controlled by the Association should be fenced out of the "community" pastures. At the end of the summer grazing season each member should withdraw his livestock from the joint-use pastures to his own privately owned and leased lands for the duration of the winter grazing season, a period extending from December to the following May.

In the interest of conservation of the lands and the maintenance of their grazing capacity, the agreement between the Grazing Association and the Department of Agriculture provided, in part, that the government and the Association should jointly determine the maximum number of livestock which should be grazed upon all lands controlled by the Grazing Association. It was agreed that as the government from time to time revised its findings, the Association should not permit the grazing of livestock in excess of the maximum number determined upon by the government. This agreement incorporated a number of rules and policies governing the use of government lands by any person or by groups, and the Association found modifications of and additions to these policies to be acceptable in connection with distributing grazing privileges to its members.

Distribution of Use Privileges and Preference Permits

One of the most important and complex problems to be worked out was the matter of determining the extent to which each member should be permitted to graze his livestock on lands controlled by the Association.

After considerable study, a document entitled *Rules and Regulations Governing the Use and Management of Lands Controlled by the Crow Valley Livestock Cooperative Association* was prepared which provided a comprehensive system for distributing grazing privileges in a fair and unbiased manner. Preferences for grazing privileges are based upon three major requirements; namely, the possession of "commensurate" property, "being dependent," and qualifying through "prior use."

"Commensurate" property was defined as land which, under proper use, would provide feed and forage for a given number of livestock during that portion of the year when such livestock was not grazed under permits issued by the Association. In other words, an applicant must have had sufficient

property to care for a given number of livestock during the five months of the year when such livestock was not grazed on Association lands.

"Being dependent" was construed to mean that the commensurate property owned or leased by an applicant was insufficient in itself to provide a reasonable standard of living for the applicant, therefore the applicant was "dependent" upon the use of additional grazing lands, and because he was an Association member he was entitled to the use of Association lands.

"Prior use" was defined as having grazed a given number of livestock for a given time on lands controlled by the Association prior to the establishment of such control by the Association. In other words, if a person had been accustomed to run livestock on a given tract of land and the Association leased or bought this tract of land, then the former user could claim "prior use" of the property, providing he could produce written evidence showing the former legal use.

In order that there should be an understanding concerning the number of livestock of different classes, such as cows, horses and sheep, which might use the range, the term "animal unit" was adopted and defined as follows: "An animal unit shall mean a cow, bull or steer, or five sheep; two horses shall be equivalent to three animal units. Animals less than six months of age on the first day of May of the year in which the age is being determined shall not be counted, provided they are the natural increase of permitted stock."

The term "preference" referred to above is not specifically defined in the Association rules, but appears to mean that an applicant who has met certain requirements to a certain degree should be entitled to privileges rather than those applicants who have not met such requirements. Two categories of preferences were established and were referred to as "A" and "B" preferences. It was agreed that an applicant should receive a Class A preference for the number of livestock which might, under proper use, be grazed on his commensurate property for that portion of the year when they are not grazed on Association lands, approximately five months. The amount of preference which might be secured in this manner was fixed by a maximum limit. Under this provision no member can graze more than a given number of livestock and still be qualified for grazing privileges. As an alternative, an applicant might receive Class A preference for the amount of the prior use which he can establish.

An applicant can receive a Class B preference if he can establish no prior use and his farm or ranch is large enough so that he can not definitely establish dependency.

Grazing was prorated among Class A preference holders up to the extent of available grazing privileges. If there is sufficient grass available to satisfy all Class A preference holders, the remaining grass is prorated among Class B preference holders.

Issuance of Permits and Establishment of Fees

Grazing permits are issued during May for the period from May to December of any given year and specify the number of head of each class of livestock which are permitted to graze and the amount which the holder of the permit has to pay for this privilege. Preference permits are issued to preference holders, and in some instances temporary permits are issued to non-preference holders if grass is available. Special provisions might be included.

In addition to the membership fee of $5.00, Association members are required to pay $2.40 to graze an animal unit for the grazing season. This means that the charge is 30 cents a month for a mature cow, 6 cents a month for a sheep, and 45 cents a month for a horse. These fees were decided upon after some experimentation and bring enough income for the Association to pay for leased land and still have a small amount left over to meet expenses attendant to the operation of a grazing association. Non-members are assessed 75 cents per grazing season for each animal unit grazed on lands which they own or lease within the Association boundaries grazed in common. This assessment is used to meet miscellaneous expenses, eradicate pests, for construction of new range improvements, and for control of disease.

Maintenance of Property and Other Problems

The Grazing Association is responsible for the maintenance of all range improvements which its members use, including fences, wells, windmills, metal or other stock tanks, reservoirs, springs, dams, cattle guards, and Class B dirt roads used principally by members. Funds collected for grazing privileges are used for this purpose after the cost of leasing lands from the government and other parties has been met.

The protection of Association-controlled property from unauthorized use is accomplished through patrolling of the range by range riders; and in case of flagrant trespass, the Association must resort to the courts for relief. In certain instances the Association may request the government to assist in preventing unauthorized use of its land since a procedure for handling these matters in federal court is available.

Other problems not contemplated in the Association's By-Laws, Rules and Regulations, or in the agreement with the government, have arisen constantly. The matter of exchange of land use affords a good illustration. Frequently persons not belonging to the Association, since they are not engaged in the livestock business, own land located within the boundaries of one of the Association's large "joint-use" pastures. This owner may wish to obtain the use of a piece of land near to his headquarters. If the Association controls such a tract, an exchange of the use of two parcels of land may frequently be arranged. Many variations of exchange of use are encountered, and this device proved to be valuable in adjusting winter grazing and summer grazing, and particularly in eliminating the building of fences and construction of water facilities. Secure tenure to land exchanged is usually a prerequisite.

The Directors and members of the Crow Valley Association are a hard-working, conscientious group. They meet often, attack problems in an unbiased, thorough manner, and have the interest of each other at heart.

During the past year many Association members have been entering into cooperative agreements with the Soil Conservation Service, Department of Agriculture whereby conservation measures have been placed in effect on their privately-owned and privately-leased lands; thus through regulated grazing on lands leased by the Association for joint use, and through the application of conservation measures on lands used by members, nearly all of the land within the Association boundaries will shortly be under excellent control.

In addition to providing proper management of grazing lands, the Association has also entered into a program of livestock improvement. When the Association was first formed, members owned a mixture of dairy stock, several breeds of beef cattle, and numbers of horses and sheep. A livestock improvement committee was appointed and policies established providing for the running of an approved type of registered purebred Hereford sires in community pastures. These herd bulls are inspected semi-annually with the assistance of the Extension Service, and no inferior bulls are permitted on the range. Association members report that the type and quality of the calf crop has increased tremendously during the past two years.

Through means outlined above, and by other measures not touched upon, the Crow Valley Grazing Association has been largely instrumental in stabilizing the livestock industry within and adjoining its boundaries.

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Public Utilities Department

Public Ownership of Telephones in U. S.

A Survey of the Brookings, S. D. Telephone System

FIVE telephone companies in the United States are publicly owned and operated. That the number is not greater is rather surprising when it is realized that out of an estimated 23,500,000 telephones in service on January 1, 1942, about 4,700,00, or 20%, were still non-Bell owned. Yet of this number only 3,800 were owned by governmental units. By way of contrast, in our neighboring country of Canada there are 144 municipal systems in addition to large provincial systems in Alberta, Manitoba and Saskatchewan.[1]

The publicly-owned systems in the United States on January 1, 1942 were as indicated in the tabulation.

Location	*Population*	*Number of Telephones Owned*
Barnesville, Minnesota	1450	260
Beresford, South Dakota	1642	480
Brookings, South Dakota	5346	2049
Correll, Minnesota	151	44
Churchill County, Nevada[2]	5319	900

[2] Churchill County, Nevada operates all the telephones in the county including the town of Fallon with a population of 2000.

The city of Brookings is the largest of these systems and will be the one primarily analyzed below.

Organizational Background

The citizens of Brookings first manifested their prospective interest in owning their telephone system in 1897 when the franchise granted to a private company stipulated that the city could take over the franchise in three or five years if it so desired. In January, 1903, a petition was presented to the city council signed by over 200 electors asking for the adoption of an ordinance providing for a municipal telephone system. The council passed the ordinance and secured approval for selling bonds at the general election in April, 1903 for the purchase of the existing system or the erection of a new plant.

In June, 1903 the city entered into a contract with the Dakota Central Telephone Company for the purchase of the existing plant for $18,000. The contract provided that the company could control the plant until the money had been paid, but the city was to receive the net income. A bond issue of $18,000 paying 5% interest was floated in June, and in July the mayor appointed a telephone committee from the council to control the plant, hire help, fix compensation, and do other necessary administrative acts. In September, a manager was hired to take charge of administration, and this method of operation has continued to the present time. The present manager was hired by the telephone department in 1911.

Technical Development

The plant first purchased and operated by the city was known as a common return system in which only one individual wire

[1] Canada Year Book, 1942.

ran from the central office to each telephone and a large common copper wire was used to return all circuits in town to the central office. All wires were uninsulated.[3] Beginning in 1913 the installation of full metallic circuits commenced (i.e., two individual wires running from the central office to *every* telephone or for each group of phones on a party-line circuit) and cable began to be removed from poles and laid below ground. By 1917 all lines had been made full metallic and additional cable had been buried. Today over 90% of all outside telephone plant in Brookings is below ground, providing not only the technical advantages of operation but also eliminating unsightly poles.

The central office equipment has grown from a small 100 line board in 1900 to a nine position board at the present time. The present Kellogg board was bought new in 1925 for $21,000 and expanded in 1936. It has selective and automatic ringing[4] in addition to other modern features.

The central office building, owned by the company, was a one-story brick structure for many years. In 1926 a second story was added so that it now provides adequate plant and operating quarters, locker, rest and reading rooms. While no marble and limestone cathedral, it meets the needs of the system.

The city does not own rural or toll lines, but since 1904 it has handled the switching of calls at a contract fee for the rural lines owned by another company. Long distance toll lines terminated in the city board until 1938 when the Bell (Dakota Central) installed its own board and operators, and now pays the city for space used in the latter's building, as well as paying a commission to the city on all toll calls originated by city subscribers.

Financial Development

Out of telephone earnings the city has retired all of the $18,000 indebtedness incurred at the time of acquisition, kept the telephone plant and building modernized, put most of its outside plant under ground, provided adequately for depreciation,[5] and secured a desirable degree of efficiency in operation. In addition, since 1928 a surplus of $157,635 (as of January, 1942) has been advanced to the city for non-telephonic uses. (See Table I) The city has not gone into debt for the system since the original purchase.

The telephone properties make annual advances to the city but pay no local taxes. These advances now run from $10,000 to $15,000 per year. (See Table II) The property tax rate in 1940 was 35.59 mills on 60% of assessed value; in 1941 it was 29.75 mills. If an estimate is made for property taxes on telephone assets on the basis of 60% of the depreciated book value for 1940 and 1941, the net earnings, taxes and return on investment would be as follows:

	1940	1941
Investment	$165,125	$176,005
Less depreciation	75,601	82,178
Net investment	89,524	93,827
Net income before tax estimate	11,512	12,802
Estimated property tax	1,911	1,675
Net return	$ 9,601	$ 11,127
Return on investment	10.7%	11.8%

When consideration is given to the size of the advances, the rates charged and the fact that the community is almost entirely non-industrial, these returns appear to be very satisfactory from the viewpoint of the city and telephone users.[6]

[3] The manager states that in those days an electric wire would sometimes be blown down on this non-insulated telephone return wire, ringing all the telephones in that end of town at the same time.

[4] Selective ringing means that on party lines only the telephone of the called party rings.

[5] The overall annual depreciation rate has been greater than 4.5% of plant in recent years. This compares with 1939 figures of 4.3% for the Dakota Central Telephone Co. (Bell) and 3.3% for the Lincoln Telephone and Telegraph Co. in Nebraska.

[6] The City of Brookings owns and operates an electric and heating plant, the water works and a hospital as well as the telephone system. Except for

(Footnote 6 continued on page 101)

TABLE I. SELECTED BALANCE SHEET ITEMS SHOWING COMPARATIVE GROWTH OF BROOKINGS, S. D. TELEPHONE DEPARTMENT

Item	1922	1926	1930	1934	1938	1941
	Assets					
Plant and Equipment	$ 63,123	$ 90,714	$104,035	$114,007	$137,251	$160,931
Advances to other city funds	—	—	23,300	65,235	123,135	157,635
	Liabilities					
Bonds Outstanding	8,000	—	—	—	—	—
Depreciation Reserve	6,873	10,042	23,625	42,588	63,644	82,178
Surplus	52,151	80,977	122,604	165,227	213,584	251,461

TABLE II. INCOME STATEMENTS FOR 1930, 1934 AND 1941 COMPARED BROOKINGS, S. D. TELEPHONE DEPARTMENT

	1930	1934	1941
	Operating Revenue		
Exchange rentals	$26,684	$26,152	$35,512
Switching service	1,410	937	750
Commissions on toll calls	5,256	3,986	4,666
Rent from local facilities			640
Miscellaneous revenue and income	2,346	1,936	1,265
Total	$35,696	$33,011	$42,833
	Operating Expenses		
	1930	1934	1941
Repairs, removals, and changes	$ 3,072	$ 3,736	$ 4,246
Depreciation exchange facilities	4,920	5,530	7,524
Other maintenance	681	458	456
Operators' wages	9,191	7,957	13,347
General office salaries	2,400	2,116	1,698
Other expenses	2,515	2,533	2,679
Miscellaneous charges	157	509	80
Total	$22,936	$22,829	$30,030
Net income for surplus	$12,760	$10,182	$12,802
Operating ratio[a]	64	69	69

[a] For the United States as a whole the operating ratios for 1930, 1934, and 1941 were 68.9, 70.45, and 64.0, respectively. In 1941 the operating ratio for the north central region was 69.94.

Rates and Utilization of Service

The rates have been relatively low and stable ever since the city took over the system. In 1912 the following rate schedules were established for unlimited calling and are still in force except for the handset charge introduced in 1928. All rates are filed with, and are under the jurisdiction of, the state utility commission.

the hospital these have all made advances to the city so that the tax rate for other property is exceptionally low. No doubt much of the work done in the city auditor's office for the telephone department is done at lower cost than could be expected by a privately owned company although each utility is billed for its proportionate cost of all services supplied by the city and by the other utilities.

Residence Service	
Four party line, wall phone	$1.25 per month
Four party line, desk set	1.50 per month*
One party line, wall phone	2.00 per month
One party line, desk set	2.25 per month*
Residence extension phones: wall .50; desk	.75 per month*
Business Service	
Two party line, wall or desk phone	$2.25 per month*
One party line, wall or desk phone	2.75 per month*
Extension stations, wall or desk type	1.00 per month*

* Handsets may be had for 25c additional per month

When these rates are compared with similar sized systems in the same region, they will usually be found to be from 25c to $1.00 or more lower per month. For example, the net rates filed by the non-Bell Lincoln Telephone and Telegraph Company in Nebraska, and by the Worthington Telephone Exchange Company in Minnesota, for exchanges of comparable size, 1500 to 2000 stations, are:

	Lincoln Tel. & Tel. Co.	*Worthington*
One party business, desk set	$4.25 per mo.	$4.00 per mo.
Two party business, desk set	3.75 " "	3.50 " "
One party residence, desk set	2.50 " "	2.25 " "
Four party residence, desk set	1.75 " "	1.50 " "

The development of service in Brookings is quite high, being about 39 telephones installed per 100 population. The number installed per 100 for the United States as a whole was 16.56 as of January 1, 1941, while for towns of less than 50,000 it was only 11.87. Of the larger cities of the world only San Francisco with 45.63 and Stockholm, Sweden with 41.46 can boast of as high a utilization rate.[7]

The most popular service has been the four party residence where the $1.25-150 rate has no doubt tapped off some of the lower part of the demand schedule. The total number of stations in service in the summer of 1942 was 2,049, made up of the following classes:

One party business	288 stations	14 %
Two party business	30 stations	1.4%
One party residence	66 stations	3.2%
Four party residence	1,257 stations	61.5%
Extension stations	309 stations	15 %
Private branch exchange and inter-communicating	101 stations	4.9%
	2,049 stations	100.0%

The city also switches about 450 telephones of the rural lines of the Brookings County Telephone Company for which it received $750 in 1941.[8] About 9000 calls are handled each day or about 4.4 per station, and a peak of more than 19,400 was handled the day of a huge blizzard in February, 1939.

[7] *Bell Telephone Magazine.* August, 1942, p. 192.

[8] See Table II. Recent adjustments in switching charges have been made because of the inadequate revenues being received by the rural lines company.

The record of this municipal system would indicate that at least under conditions similar to those prevailing in Brookings a telephone exchange system may be successfully owned and operated by a municipality or by independent private investors if a reasonably efficient administration is selected and given an opportunity to carry out proper methods. No small amount of the success of the Brookings system can be attributed to the tireless work of the present manager over the last thirty years. It also appears that technically good service can be given by an entirely locally owned system as long as access is had to the nationally operated toll lines for long distance service.

The Brookings system operates on low rates and yet yields good returns. The telephone service market, often untapped in many communities, shows a high saturation for a lower grade service furnished with less than latest type of station equipment, but having a very reasonable rate.[9] On the other hand, in the light of earnings being made, the city appears to be overly conservative in not giving the most modern station equipment without extra charge to its high rate subscribers.

The city has kept the records of all its utility departments well segregated; it pays each utility for services rendered to the city itself; and each utility is charged for service rendered to it by other utility departments. There is ample evidence that this is one of the better examples of what can be done administratively with municipally owned and operated enterprises generally. The Brookings, South Dakota experience points to the conclusion that good service at low rates and a substantial source of revenue for smaller municipalities can be combined in a *well-run* municipal telephone plant.

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[9] Churchill County, Nevada system with a ratio of telephones to population in Fallon of approximately 25 per 100 serves subscribers at rates per month somewhat higher as follows:

	Residence	Business
One party line	$2.50	$3.25
Two party line	2.10	2.50
Four party line	1.65	2.10

Barnesville, Minnesota, a town of 1450, serves 260 city telephone users with its municipal system. Its rates per month are:

	Residence	Business
One party line	$1.50	$2.50
Two party line	1.25	2.00

Handsets 25c per month extra for 24 months

Recent Utility Activities

O.P.A. and Rate Regulation

OLD line national, state and local utility regulators are finding another new factor to be taken into consideration in rate making activities. Since the passage of the Act of October 2, 1942 to "Aid in Stabilizing the Cost of Living," O.P.A. must be notified thirty days in advance and be given consent to intervene by the carrier or utility in any case where a rate increase is sought. This requirement immediately brought O.P.A. into the rate picture and requires some clarification.

One of the first tests of the extent of O.P.A. power has gone to the U. S. Circuit Court of Appeals.[1] The Washington, Malboro & Annapolis Motor Lines filed a proposed rate increase with the Interstate Commerce Commission on September 23, 1942, before the new price control amendments had been passed. On October 25, 1942 the I.C.C. allowed the higher rates to go into effect. O.P.A. claimed that the company should have given it thirty days' notice and

[1] 11 Law Week 2449 (December 15, 1942).

consent to intervene. The company denied that this requirement was necessary under the above conditions, but upon appeal the Circuit Court of Appeals upheld the position of O.P.A., stating that the O.P.A. requirement took supersedence over the Interstate Commerce Act "to whatever extent may be necessary to achieve its own purposes." The Act of October 2 adds a new requirement to the I.C.C. Act, and no exceptions were made to carriers filing increases prior to the date the 1942 Act became law but whose rates became effective after October 2.

The Public Utilities Commission of the District of Columbia found O.P.A. intervening on October 19, 1942 in a hearing involving a rate increase under the sliding scale contract between the Commission and the Washington Gas Light Company. O.P.A. claimed the right to interject new issues into the proceedings, in this case involving the use of original cost for the rate base, depreciation and other matters. The District Commission rejected the claim of O.P.A. to obtain a full hearing on any point in rate making regulation which O.P.A. sees fit to raise. O.P.A. is to seek a test of the issue in the Federal District Court.

On December 4, 1942 O.P.A. filed a request with the I.C.C. to reopen the case which early in 1942 had granted the railroads a 3% to 6% increase in most freight rates and a 10% increase on passenger fares following wage increases which had been made. O.P.A. claims that the railroads are making too high net earnings, and that the higher rates in effect are incompatible with the principles of the national economic program.

Inasmuch as the railroads as a whole went through many lean years in the thirties it might be advisable from an economic view to let the roads use such earnings to retire debt so that in the post-war period they will have their finances in a more flexible form. O.P.A. is probably right if it is questioning the use of exceptionally large earnings only for paying dividends. That I.C.C. may maintain earlier increases was indicated on December 24 when it ordered Texas intrastate carriers to raise their rates to conform to the interstate levels complained of by O.P.A. Hearings are now in progress.

Federal Communications Commission and Telephone Toll Reductions

The Federal Communications Commission is for the fifth time since 1935 seeking to get long distance telephone toll rates reduced. On November 21, 1942, F.C.C. ordered A.T.&T. to show cause at a hearing on December 16, 1942, why its long distance rate should not be reduced. A.T.&T. unsuccessfully sought dismissal or postponement of the hearing, at least until April 1, 1943. O.P.A. also intervened in the case.

F.C.C., in its order, alleged that present rates are earning the Long Lines Department of A.T.&T. over 24 per cent on net book investment before federal taxes, or 14.9 per cent after the new 1942 federal taxes. Such earnings are claimed to increase the cost of the war and the cost of living. A.T.&T., in its reply to the F.C.C. order, claims that: (1) Reduced rates would increase traffic at a time when such increase would be contrary to the public interest; (2) Earnings in 1942 will be lower than in 1941; (3) F.C.C. considered only part of the expenses of long distance service and the time allotted is too short for preparation to make a reasonable showing on the point; (4) The order should not have been issued until hearings now in progress on the division of toll revenues between carriers involved had been concluded[2]; (5) Earnings

[2] The so-called separations controversy hearings now in progress relate to the determination of the cost of toll service, how these costs shall be distributed among telephone users, and the division of toll revenues between companies whose facilities are employed. The major argument, involving an example of common costs where facilities are used jointly for local and toll service, revolves about the "board-to-board" or the "station-to-station" method of computation. With the "board-to-board" basis, favored by the Bell System in the past, it is assumed that the local telephone subscriber pays enough in his local monthly rentals to include the use of the local facilities for any toll calls he may wish to make. Toll rates would therefore cover only the costs of the use of additional toll facilities, etc. needed to make a call. With the "station-to-station" basis, favored by the F.C.C., many state commissions and independent telephone companies, it is assumed that access to the toll boards is not included in monthly telephone rentals. Therefore, income from toll would be somewhat higher to compensate the local company for the use of its facilities in making toll calls.

(Footnote 2 continued on page 105)

figures were treated incorrectly by F.C.C. and the present rate of profit is possible only because of war conditions.

Long protracted hearings during a war period are obviously not desirable but some light on the issues may be warranted at this time rather than when the war is over. If the high utilization of fixed investment made possible by war traffic is now resulting in lower average costs per message, there seems to be some logic to F.C.C. claims. Stimulated demand can probably be temporarily handled in some fashion by rationing-priority rulings such as those issued by the Board of War Communications,[3] just as it is possible to handle shortages of other goods affected by price ceilings when purchasing power is excessive. There is little reason to believe that government demand will be much greater than otherwise because of any rate reductions but dollar war cost will be less. Any reduction, if made, should of course only be temporary if post-war traffic is not sustained at high enough levels to keep unit costs down and revenues up.

Note: Since the above summary was written, the toll case came to an abrupt end on January 20, 1943. The American Telephone and Telegraph Company agreed to make voluntary reductions of about 25% in the rates for conversations *beyond* the basic three-minute period. Inasmuch as governmental units and war industries are the largest users of overtime, they will be the greatest beneficiaries, while the general public will not be given a rate incentive to place more toll calls. The company also reduced private telephone and telegraph line rates from 25% to 35%.

For a *quick* adjustment, the agreement reached is probably as satisfactory as can be expected. It still leaves the ultimate settlement of the long distance rate problem for a future determination under less abnormal social conditions.

That is, toll subscribers would pay more of the cost of making toll calls while those making purely local calls at all times should get slightly lower rates. Local companies would therefore get more of their revenue from their share of long distance business.

[3] See *Telephony*, October 17, 1942, p. 10.

Public Utility Financing in the Fourth Quarter of 1942 and a Summary of the Year 1942

I. Fourth Quarter Financing

Total public utility security offerings remained at a very low level in the fourth quarter of 1942, amounting to only $98 millions as compared to $172 millions in the last quarter of 1941 and $85 millions in the third quarter of 1942. This is the lowest fourth quarter total since this series was started in 1936. Except for one small issue of common stock and one serial issue all offerings were long term bonds, most of which were sold privately.

Long-Term Debt Financing. Table I shows available details of the two issues sold publicly during the fourth quarter. The

TABLE II. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY, FOURTH QUARTER, 1942

Company & Issue (A)	Coupon Rate (B) %	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F) %	Offering Yield (G) %	Underwriters' Commissions (H) %	Proceeds to Company (I) %	Estimated Incidental Expenses (J) %	Net Proceeds (K) %	Cost to Company (L) %
Casco Bay Light & Pr. Co. 1st Mtg.,S.F.B.	4	$ 300,000	1962	Oct.	100.00	4.00	[1]	[1]	[1]	[1]	[1]
Central Maine Power Co. 1st & Gen. Mtge., M	3½	12,500,000	1972	Dec.	107.38	3.11	1.07	106.31	1.04	105.27	3.20
Total or Weighted Average		$12,800,000				3.13	[1]	[1]	[1]	[1]	[1]

[1] Data not available

TABLE II. SUMMARY AND ANALYSIS OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PRIVATELY, FOURTH QUARTER, 1942

Company & Issue (A)	Coupon Rate (B)	Principal Amount (C)	Maturity Date (D)	Month of Offering (E)	Offering Price (F)	Offering Yield (G)
Long Island Ltg. Co.	%				%	%
1st Mortgage, F	3¼	$30,205,000	1972	October	100.00[2]	3.25
Brockton Gas Lt. Co.						
Registered Notes	4	750,000	1952	October	[1]	[1]
Illinois Central Tel. Co.						
1st Mortgage, A	4	1,100,000	1962	November	100.00	4.00
Southern Union Gas Co.						
1st Mortgage, S.F.	3¾	3,650,000	1962	November	[1]	[1]
Bell Tel. Co. of Pa.						
1st & Ref. Mtge, E	2¾	35,000,000	1973	December	98.00	2.85
Central Indiana Gas Co.						
1st Mortgage S.F.	4	3,750,000	1962	December	102.00	3.86
Citizens Gas Co.						
1st Mortgage S.F.	4	100,000	1962	December	102.00	3.86
Florida Pub. Utilities						
1st Mortgage S.F.	4	1,400,000	1962	December	102.50	3.82
Hoosier Gas Corp.						
1st Mortgage	4	350,000	1962	December	101.00	3.93
Houghton Co. El. Lt. Co.						
1st Mortgage S.F.	3¾	1,300,000	1962	December	100.50	3.72
Lynchburg Gas Co.						
1st Mortgage S.F.	4	500,000	1962	December	101.00	3.93
Maine Pub. Serv. Co.						
1st Mtge. & Coll. Trust	3¾	2,000,000	1972	December	101.75	3.66
United Tel. Co. of Pa.						
1st Mortgage A	3½	146,000	1965	December	103.00	3.31
Total or weighted average		$80,251,000				
Total or weighted average (Excluding issues for which incidental expenses are not available)		75,851,000				3.15%

[1] Data not available
[2] Available information indicates that this issue was sold at 100% of par or perhaps slightly more.

weighted average offering yield on these issues was 3.13%, which is lower than the corresponding figure for any other quarter in 1942. This is of little significance, however, because of the limited number of issues. Table II lists the 13 issues which were sold privately, together with the offering price and yield, when available. The issues totaled $80 millions, which is by far the greatest volume of offerings in this classification shown for any quarter in 1942. The offering yield on these issues varied from 2.85% to 4%, the weighted average being 3.15%.

Other Utility Financing. One issue of notes maturing serially and one offering of common stock are the only public utility securities offered during the quarter which are not listed in Table I or Table II. These issues are listed below. There were no offerings of public utility preferred stock during the quarter.

$5,000,000 Central Maine Power Company, unsecured 2¼%, 2¾%, and 3% notes due 1943-1952. Sold privately at par.

240,584 Southern Gas Company, 240,584 shares of common stock $1.00 Par offered at $1.50 per share.

II. Summary of the Year 1942

Table III shows the volume of public utility security offerings in each quarter from 1936 to date. The effect of the war is

TABLE III. VOLUME OF PUBLIC UTILITY FINANCING, BY QUARTERS 1936 TO 1942, INCLUSIVE *

Year and Quarter	Long-Term Bonds†				Serial Offerings‡		Preferred Stock‡		Total in Millions
	Public Offerings		Private Offerings						
	Millions	Per Cent of Total§	Millions	Per Cent of Total§	Millions	Per Cent of Total§	Millions	Per Cent of Total§	
		%		%		%		%	
1936									
1st	$ 364	86	$ 56	13	$ 4	1	$ —	—	$ 424
2nd	510	83	28	4	54	9	24	4	616
3rd	238	76	71	23	1	—	4	1	314
4th	719	93	31	4	—	—	19	3	769
Total	$1,831	86	$186	9	$ 59	3	$ 47	2	$2,123
1937									
1st	$ 274	72	$ 19	5	$ —	—	$ 85	23	$ 378
2nd	185	92	10	5	4	2	1	1	200
3rd	66	73	3	3	18	20	4	4	91
4th	87	80	11	10	10	9	1	1	109
Total	$ 612	79	$ 43	5	$ 32	4	$ 91	12	$ 778
1938									
1st	$ 106	68	$ 49	31	$ —	—	$ 1	1	$ 156
2nd	179	75	55	23	2	1	2	1	238
3rd	240	73	81	25	5	2	1	—	327
4th	350	69	81	16	55	11	19	4	505
Total	$ 875	71	$266	22	$ 62	5	$ 23	2	$1,226
1939									
1st	$ 96	64	$ 18	12	$ —	—	$ 36	24	$ 150
2nd	203	46	181	42	3	1	48	11	434
3rd	247	64	63	16	32	8	47	12	389
4th	155	43	183	50	22	6	4	1	364
Total	$ 699	53	$445	33	$ 57	4	$136	10	$1,337
1940									
1st	$ 141	54	$ 59	22	$ 10	4	$ 53	20	$ 263
2nd	52	29	80	45	3	2	43	24	178
3rd	137	56	84	35	6	2	17	7	244
4th	360	59	179	30	5	1	62	10	606
Total	$ 690	53	$402	31	$ 24	2	$175	14	$1,291
1941									
1st	$ 164	39	$197	47	$ 5	1	$ 52	13	$ 418
2nd	149	52	81	28	16	5	43	15	289
3rd	32	7	415	86	5	1	28	6	480
4th	103	60	43	25	20	12	6	3	172
Total	$ 448	33	$736	54	$ 46	3	$129	10	$1,359
1942									
1st	$ 128	66	$ 32	16	$ —	—	$ 35	18	$ 195
2nd	65	62	28	27	7	7	4	4	104
3rd	25	29	45	53	9	11	6	7	85
4th	13	13	80	82	5	5	—	—	98
Total	$ 231	48	$185	38	$ 21	5	$ 45	9	$ 483

* Exclusive of short-term obligations (other than serial issues) and common stock issues. No attempt has been made to summarize short-term borrowings because of the impossibility of obtaining complete data. Public offerings of common stock have been negligible throughout the period.
† Exclusive of serial offerings.
‡ Includes issues sold privately as well as publicly.
§ Per cent of each type of financing to the total in the quarter shown in the right hand column.

apparent when it is noted that the 1942 total was nearly 40% below the lowest total for any other year shown in the table and is over 60% below the annual average for the period 1936 to 1941, inclusive. All classes of securities shared in the slump, offerings of long term bonds being off 66% (from the average of the six preceding years) while serial issues and preferred stock offerings were off 53% and 55%, respectively.

The tendency, which has become increasingly apparent in recent years, for public utilities to market their securities directly to institutional investors was checked somewhat in 1942. The following table shows how this method of marketing utility securities has increased in importance since 1936.

Year	Per cent of Public Utility Long-Term Bond Flotations Sold Privately*
1936	9%
1937	7
1938	23
1939	39
1940	36
1941	62
1942	44

* Excludes serial issues.

TABLE IV. SUMMARY OF YIELD AND COST DATA OF PUBLIC UTILITY LONG-TERM DEBT ISSUES OFFERED PUBLICLY (EXCLUSIVE OF SERIAL MATURITIES), 1936 TO 1942, INCLUSIVE *

Year and Quarter	Number of Issues	Offering Yields		Underwriters' Commissions		Estimated Incidental Expenses		Cost to Company	
		Range	Weighted Average	Range	Weighted Average	Range	Weighted Average	Range	Weighted Average
		% %	%	% %	%	% %	%	% %	%
1936									
1st	17	3.25—5.48	3.64	1.00—6.00	2.25	0.42—2.27	0.58	3.40—6.09	3.82
2nd	26	3.05—5.00	3.78	0.97—4.00	2.26	0.35—2.15	0.91	3.13—5.75	4.00
3rd	18	3.15—4.77	3.46	0.75—3.50	2.18	0.51—2.38	0.84	3.28—5.23	3.63
4th	32	3.00—4.87	3.37	0.74—3.25	2.06	0.23—1.68	0.54	3.12—5.38	3.51
1937									
1st	12	3.19—5.11	3.48	2.00—5.00	2.02	0.48—4.16	0.58	3.34—5.81	3.61
2nd	8	3.25—4.69	3.61	2.00—3.25	2.06	0.29—1.90	0.64	3.41—5.17	3.78
3rd	6	3.37—5.28	3.69	1.99—4.00	2.02	0.51—3.69	0.84	3.53—6.25	3.86
4th	5	3.50—4.56	3.82	2.00—3.50	2.12	0.62—1.62	0.88	3.99—5.23	4.05
1938									
1st	4	3.39—4.44	3.86	2.00—2.50	2.27	0.54—1.02	0.61	3.55—4.76	4.05
2nd	7	2.92—6.18	3.40	1.03—8.00	1.73	0.36—6.57	0.57	3.11—7.65	3.58
3rd	12	3.00—5.00	3.43	0.50—3.50	1.80	0.50—2.18	0.74	3.13—5.38	3.58
4th	12	3.01—6.20	3.44	0.96—5.00	1.98	0.32—3.33	0.58	3.15—6.91	3.59
1939									
1st	6	3.15—4.00	3.58	1.75—4.00	2.09	0.61—1.48	0.81	3.32—4.22	3.81
2nd	14	2.75—5.75	3.56	1.00—4.10	2.01	0.39—6.91	0.70	2.89—6.36	3.73
3rd	11	2.69—4.20	3.44	1.50—3.00	2.03	0.39—3.42	0.66	2.77—4.44	3.60
4th	8	3.02—3.89	3.63	1.50—2.75	1.99	0.58—1.02	0.71	3.20—4.10	3.80
1940									
1st	12	2.47—4.36	3.23	1.50—2.50	1.99	0.39—0.94	0.49	2.69—4.63	3.38
2nd	4	2.78—3.36	3.29	2.00—2.00	2.00	0.66—0.95	0.71	2.92—3.56	3.47
3rd	8	2.73—4.38	3.10	2.00—3.50	2.05	0.41—1.31	0.59	2.85—4.80	3.24
4th	14	2.51—4.50	2.81	0.50—4.00	1.75	0.36—2.81	0.51	2.62—5.06	2.91
1941									
1st	12	2.60—4.75	2.86	1.50—3.00	1.79	0.45—3.40	0.59	2.67—5.38	2.97
2nd	5	3.00—4.07	3.36	1.75—3.00	1.91	0.37—0.66	0.49	3.11—4.27	3.51
3rd	1	2.90—2.90	2.90	1.29—1.29	1.29	0.58—0.58	0.58	3.00—3.00	3.00
4th	5	2.55—4.18	2.89	0.72—3.98	1.36	0.34—1.81	0.48	2.61—4.43	2.99
1942									
1st	3	2.95—4.50	3.31	0.73—1.35	1.26	0.52—1.50	0.69	3.10—3.51	3.42
2nd	5	2.78—4.81	3.39	0.60—3.23	1.33	0.37—3.12	0.88	2.85—5.21	3.53
3rd	2	2.67—3.59	3.41	0.73—3.35	2.83	0.91—1.55	1.42	2.74—3.84	3.62
4th	1	3.11—3.11	3.11	1.07—1.07	1.07	1.04—1.04	1.04	3.20—3.20	3.20

* Excluding issues for which complete data are not available.

Table IV summarizes data on underwriters' commissions, estimated incidental expenses, and net cost of bond capital to the company for the publicly offered long-term debt issues in each quarter during the period 1936 to date. Offering yields have declined somewhat during most of the period shown although they are somewhat higher in 1942 than in 1941. Underwriters' commissions have been relatively low since the middle of 1941, apparently as a result of the Securities Exchange Commission's competitive bidding rule. Estimated incidental expenses have increased in 1942.

The following summary analyzes the term of publicly and privately sold long-term bond issues in 1942:

Term in Years	Long-Term Debt Issues Offered During 1942*			
	Number of Public Offerings	Number of Private Offerings	Combined Public and Private	
			Number	Per cent
Less than 20 years	1	3	4	12%
20 — 24 "	2	7	9	28
25 — 29 "	1	3	4	12
30 "	7	5	12	38
Over 30 "	1	2	3	10
Total	12	20	32	100%

* Excluding issues of less than $1,000,000 par value.

It is very apparent from the above tabulation that the public offerings as a group have longer terms than those sold privately. A 30 year term continues to be most common although there are many 20 year bonds among the privately sold issues.

High-Lights of the Year's Financing. Below are listed some of the more important public utility issues which were offered in 1942, together with pertinent facts concerning each:

Alabama Power Company 1st 3½'s of 1972. This is the largest issue sold during the year. It was sold in January through underwriters at 101.75% of par to yield the investor 3.41%. Net cost to the company, after paying expenses, was 3.51%. Total par value offered was $80,000,000.

Potomac Electric Power Company 1st 3¼'s of 1977 offered in September through underwriters at 113 to yield only 2.67%, the lowest offering yield on any issue sold during the year. Net cost to the company was 2.74%.

Southern Bell Telephone and Telegraph Company Debenture 2¾'s due in 1972 sold privately at 98½ to yield 2.82%. This issue was sold in August on a lower yield basis than any of the other privately sold issues. A similar issue was sold by Bell Telephone Company of Pennsylvania in December at a slightly higher price.

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Book Review Department

The Economics of Soil Conservation. By Arthur C. Bunce. Ames, Iowa: The Iowa State College Press, 1942. pp. 227, $3.00.

Two years ago this reviewer had occasion to remark that land economics, having passed through nearly a decade of intensive action-programming, was finding an opportunity for appraisal and reorientation. At that time, the Ely-Wehrwein text had become available; Abram's *Revolution in Land* was provoking discussion; and Spiegel's *Land Tenure Policies* had just appeared. Since then, Robbins has added *Our Landed Heritage*, and now Dr. Bunce comes forward with a valuable contribution on *The Economics of Soil Conservation.* All this is very encouraging. It serves to remind us that the readiness of land economists to move quickly into action in the depression thirties was due to their studied preparations in the preceding years. It also indicates that land economics may again be ready to contribute to the planning for readjustments which are sure to face us in the future. In short, these publications serve as evidence that for land programs there is good chance that action will not out-run understanding.

It is the objective of Dr. Bunce's book to contribute to the job of soil conservation planning by explaining the place of economic considerations. The line of attack hinges on the definition of soil conservation in physical terms: "the maintenance of the fund resources and the present level of productivity of the soil, assuming a given state of the arts." Whether this condition of soil resources is or is not something to be sought is the problem of soil conservation in economic terms. Bunce's whole book may be said to be an attempt to demonstrate the reasonableness of this approach. Set almost wholly in terms of a conceptual analysis, it is a discussion of the economic elements which enter into the determination of the desirability of physical soil productivity maintenance.

Aside from the definition of soil conservation, the three beginning chapters are concerned with the presentation of various concepts of production economics. In this reviewer's opinion, the position and emphasis given to this exposition will unfortunately and unnecessarily detract from the book's effectiveness. It is very likely that this material is not so all-important as Dr. Bunce implies. Certainly many non-economists will not get beyond this dissertation on economic terminology: and they are the ones who dominate conservation agencies and who most need to read the book. Even some economist-conservationists may, for one reason or another, balk at this introduction to the volume. It might have been better had the necessary concepts been explained in the context where they are used. This drawback to getting a wider reception to Bunce's work is the more unfortunate because many of the concepts are not really necessary to understanding the author's argument; and some are of dubious validity even though others, like the distinction between primary and secondary intensity, are real contributions to production economics.

The effects of virgin fertility exploitation on the national land utilization pattern are described in an interesting chapter and are excellently summarized in a few sentences on page 53. In the next chapter, the broad effects of general and relative price changes on land utilization are outlined.

A theoretical treatment of the financial problem of soil conservation in terms of the individual entrepreneur is given in Chapters 6 and 7. Attention is first directed at fertility depletion which, by definition, does not involve any reduction in permanent net returns. Soil deterioration which may, beyond a point, result in permanently lower returns is a more complex problem. Dr. Bunce's treatment of this situation is the best conceptual discussion we have.

The book moves into high gear in Chapter 8 and beyond as Bunce turns to the social aspects of soil conservation policy. First off, he establishes his reasons for kicking "social versus individual time preference" out the front door. He then designates three conditions under which social action for soil conservation is desirable. (1) It may be needed when soil conservation is economic for the individual but he fails to practice it for reasons that are given. (2) Social action may be needed because conservation is not economic to the individual although it is to society. In these two sections, Bunce is in good form. He weakens when he comes to the third situation: (3) when social action is called for to achieve "intangible ends." One wonders if "social time preference" doesn't slip in the back door. Furthermore, Bunce nowhere says what an "intangible end" in soil conservation policy might be like: when he comes to discuss such ends, he talks about billboards. Later in the book, he pretty effectively eliminates any reason he may have had for setting this third situation up in the first place. The reason for this apparent looseness may lie in the author's concepts of "economic" and "social" for he gets tangled up in these all the way through the book. The problem is too large to be discussed here, but at any rate, Bunce seems to open some gaps which his conceptual equipment cannot close.

In a chapter on social controls, there are abbreviated discussions of education, subsidy, price, and police power measures. Only in this chapter does Bunce make much of any use of actual experience in soil conservation planning. While what is said is very worthwhile and is interestingly presented, the chapter is not quite sufficient. The most realistic references are to the A.A.A. The author shows that so long as primary emphasis is put on the raising of prices, the A.A.A. is not exactly a vehicle for attaining conservation of the soil. The Soil Conservation Districts program is eminently conspicuous by its absence.

"Problems of Measurement" is a chapter designed to provide guide lines for the application of the principles previously enunciated. Those who are engaged in direct field action or in empirical research will probably be disappointed by the generality of the treatment. The chapter does serve, however, as an excellent summary of Bunce's principal arguments. He reiterates that (1) the ends of soil conservation planning must be clearly defined, (2) the means must be directed at basic causes of exploitation, (3) action programs must be flexible, (4) conservation efforts are wasteful if land use pattern maladjustments are not corrected, (5) it is essential to deal with small areas, and that (6) conservation, once introduced, will be permanent only if it is financially advantageous to the farm operator but that otherwise the conservation system will not be continued except under enforced controls.

The author relates some of his concepts to the needs of war-time production and makes some positive suggestions for cutting corners in soil conservation procedures in a chapter on "War and Conservation." In the final chapter of the book, the need for coordination of soil conservation programs is discussed, and the place of research in policy formulation is sketched.

It is no reflection on the many positive contributions of Dr. Bunce's volume to say that it is not so comprehensive in scope (I did not say encyclopedical) as one might wish. There is no reference to the history of the soil conservation movement; not even an historical summing-up of soil conservation economics literature. There is hardly any use of the results of empirical research, and no appraisal of the research that has been done. The slighting of the conservation districts program has been mentioned. In general, familiarity with the action programs is taken for granted.

These omissions strengthen the reader's impression that most of the book is phrased without reference to the reservoir of soil conservation planning experience which exists. And yet, as has been noted, Dr. Bunce's conclusions should command the attention of all "conservationists." Is this simply a demonstration of the efficacy of the "theoretical tools" which are most prominently displayed? Only in part, I think. It must in large part be due also to what Dr. Bunce and others have observed and learned from soil conservation planning *experience*. But this part of Bunce's foundations is not presented in the book. If his framework of social diagnosis had a place for such evidence, the resulting book would have been more

interesting and even more convincing perhaps than it is.

The tone of the book is restrained, patient, academic. While this feature makes the volume unexciting, it is rather welcome inasmuch as the conservation movement has been characterized by alternating periods of band-wagon campaigning and despairing apathy. Besides, it is not always easy for economists to refrain from categorical criticism of the non-economic viewpoint of conservation matters. A noticeable exception to the evenness of tone in Bunce's book occurs in two confused pages which purport to clarify existing confusion by deriding a partial quotation from the Ely-Wehrwein *Land Economics*. This criticism would have been more fruitful if the author had heeded his own advice later in his book. On the other hand, it would be less pertinent if the original passage had been fully quoted and if the author had not tried quite so hard to read complications into it.

In sum, Dr. Bunce has given us a good book that becomes a "must" book in the familiar literature of all economists who have any interest in land economics. I would also hope that the book may become a familiar one to all persons interested in conservation problems, whatever may be their particular line of interest. Dr. Bunce's book is not a definitive diagnosis of the economic problems of soil conservation, but it certainly puts us a long way on the road towards getting such a piece of work. I hope that Bunce may write it. Future literature in soil conservation should reflect the salutary effect of the straight-forward thinking that Dr. Bunce has injected into the subject.

I cannot refrain from commenting on this book and the administration of research in government bureaus. Whatever it is that has made this book possible, and whether it is the time that has been spent on shaping "theoretical tools" or the time spent in empirical research or both, it has been a worthwhile arrangement for society, and it can be of considerable value to the Soil Conservation Service in particular. It is reassuring to see that a huge bureau has seen the advantages of keeping at least one man in a position where he has been able to apply himself to the job of straightening out some worthwhile ideas on public policy. In these times when the functioning of immense bureaus in a democratic society is a great question, it is even more reassuring that a member of such a bureau can not only do this kind of free thinking but can at the same time publish his ideas for wide consumption. Democratic America surely cannot afford to see these opportunities disappear, no matter in how small a degree they may now exist.

LEONARD A. SALTER, JR.

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Readings in the Social Control of Industry. Selected by a Committee of the American Economic Association. Blakiston Company, 1942. pp. viii, 494. $2.75.

This selection of fifteen articles from economics and law journals and dealing with the government control of monopoly is the first in a new series of annual volumes of republished articles selected by a special committee of the American Economic Association. The series is intended to be used in connection with courses for advanced students, but it is also of interest to economists generally. This, the first volume, is important for both classes of readers.

The main theme of the book is the history of control of monopoly and unfair competition together with the possibility of future control. The usual notion that monopoly regulation has been faltering and ineffective is well documented. The legislative efforts are described as poorly written laws not striking at the heart of monopoly; revision of the laws is a prerequisite to monopoly control, if indeed control is feasible. Judicial interpretation has been almost as much at fault.

The NRA effort at control of industry is reviewed at length. The writers make clear that this venture was hardly an experiment in "*social* control of industry" and thus does not show the feasibility of such control. The primary lesson from the NRA is in *industrial* control of industry with governmental approval. Particularly significant, though scarcely surprising, is the type of solution adopted: Competition was not to be

restored or made effective but was to be limited through the relaxation of the anti-trust laws. Social control may mean governmental monopoly or enforcement of competition or a combination of the two, but can hardly be stretched to mean governmental encouragement of monopoly for industry.

Despite the fact that the volume is a group of essays written for various journals, there is a pattern of development for the book as a unit. The first three essays deal with the regulation of monopoly in a general sense. (The precise order of the essays is not followed in this review.) Crowin Edwards and Myron Watkins emphasize the role of the merger, an important and wholly legal method of reducing competition. E. S. Mason warns of the growing divergence of the legal and the economic conception of monopoly. The second group of essays discusses regulation in more specific terms. B. W. Lewis compares the "consumer" and the "public" interest, drawing particularly upon NRA experience with consumer boards. Then Milton Handler describes in detail the regulation of "unfair competition," showing the inadequacy and superficiality of the laws, the courts and the commissions. A. R. Burns discusses the principal anti-trust laws from the standpoint of the regulation of price competition. Homan presents two appealing ideas about regulation of industry. The first is a reorganization of the administrative set-up of anti-monopoly control which would avoid the present split in authority between the Department of Justice and the Federal Trade Commission. The second idea is related to the type of control that is needed. Business proposals for regulation emphasize the uniqueness of each industry and stress the need for recognizing the peculiar needs of each. This idea has been accepted by the academicians before the *terra incognita* that is the business world has been explored. (*e.g.*, D. H. Wallace suggests, in an essay in the book, that separate codes for separate classes of industry, in some cases for single industries, may be necessary. pp. 276-7.) This amounts to a prejudgment that general anti-trust rules are unworkable before either business conditions have been described or general anti-trust rules tried.

Then follow two essays, of which the first is closely allied to the previous ones on r e g u l a t i o n while the second one stands alone. H. M. Gray treats the public utility concept as an "institution" that arose in response to a definite social need but is now clearly senescent. Referring to the "public utility concept," he says: "When any institution reaches this advanced stage of obsolescence, it tends to be superseded by some new institution that is more positive in character and better adapted to the needs of the time." (p. 296.) This reviewer was surprised at the orderly character of institutions, arising to fulfill social needs and declining with the passing of the need. A. B. Wolfe turns up unexpected difficulties in the definition of the real meaning of full utilization of resources.

In the next to the last group of essays are two on special topics—conservation of our oil resources and Britain's Reconstruction Movement. The story of the oil industry and its exploitation by Northcutt Ely is almost amusing with its tale of inefficient and costly practices. An industry never noted for conservation seems unbelievably exploitative and wasteful, even—or especially —in the newest and biggest oil fields (East Texas).

"The British Movement for Industrial Reconstruction and the Control of Competitive Activity" (A. F. Lucas) is more patently anti-social than the NRA. The actual destruction of "excess capacity," particularly in the heavy industries including shipbuilding, is indefensible and has been particularly unfortunate in the current war period.

Finally, two suggestions are offered for orientation of study and research for understanding industry as a preliminary to control of monopoly. A. R. Burns suggests a reformulation of the general theory of prices as a way of discovering how the system operates at present. J. M. Clark's essay, "Toward a Concept of Workable Competition," is important both for the central idea as indicated by the title of the essay and for the little ideas strewn along the way.

A useful bibliography of 250 articles on the social control of business is listed both alphabetically by authors and chronologically.

In summary, the volume is a well chosen group of essays dealing with various phases of the problem of the control of industry. The problem of monopoly and industrial control is accorded a well-rounded treatment by writers who, taken together, represent most of the range of intellectually respectable opinions on that subject. Economists, even though they have read the essays reprinted from economic journals, will be interested in those from law journals, for they are more likely to have been missed. Teachers will welcome this first-rate text for intermediate and advanced students.

L. JAY ATKINSON

University of Connecticut

Can Our Cities Survive? By Jose Luis Sert. Cambridge: Harvard University Press, 1942. pp. xii, 259. $5.00.

This elegant addition to the literature of urbanism bears the subtitle, "An ABC of urban problems, their analysis, their solutions based upon the proposals formulated by the C.I.A.M. [International Congresses for Modern Architecture]." This group, at its fourth session in Athens, drew up a "Town Planning Chart." In the idiom of Wittenberg in 1517, this four-page declaration (pp. 246-49) would have been called the town planning theses; in the idiom of the Atlantic in 1941, it would be called the town planning charter. Actually, it was written in 1933. It is a statement of principles that must govern the rebuilding of cities. They read unexceptionally today. The architects assembled from many nations proclaimed that cities formed parts of geographic, economic, social, cultural and political units—regions—and that their development was integral with that of the region. They stated the four functions of the city—dwelling (notably listed as the first), recreation, work (industrial and business areas), and transportation. (To me, the fourth is in no way coordinate with the other three as a function: it is only a means to facilitate the first three.)

Under each of these heads, statements are made of present inadequacies of cities and required solutions. With few of these would any urbanist be inclined to disagree. We need highways designed with a view to differentiation of function. We have not mastered the techniques of the machine age. Ultimately each city must provide itself with a town planning program that will "coordinate the natural, socialogical, economic and cultural factors that exist in each case."

According to Sigfried Giedion, secretary of the C.I.A.M., the assembled architects began by investigating the smallest unit, the low-cost dwelling, and found themselves driven by inner logic to analyze present-day cities. This logic has driven them, too, to recognize the influence of economic factors. These they have not always interpreted correctly. It is striking to juxtapose pictures of overcrowded slums and an 18th Century drawing of the stowage plan of a slave cargo: but I could match the pictures with F.S.A. documentaries of sharecroppers huddled in a two-room shack in the great open spaces of the plantation with the master's mansion in the distance. It is poverty that causes crowding in city and country alike. It is striking, too, to picture the complex of New York's Triborough Bridge as presaging the scale of transportation of a new urban environment and at the same time to picture uncrowded neighborhoods of dwel' ings. I do not find a reconciliation of the income of the latter and the cost of the former.

Senor Sert has undertaken to make an illuminated Book-of-the-Hours as a gloss on the town planning chart. Text alternates with striking illustrations, drawn from all countries and all ages, as befits the international sponsorship of the work. Photomontage, bleed pictures, all the modern tricks make a lively book. (I never saw so many pictures without a single credit line: perhaps internationalists are above copyright restrictions.)

The answer to the title of the book is two-fold: cities *should* survive because spiritually they represent the flowering of civilization. They *can* survive if we will follow the precepts of the town planning chart.

CHARLES S. ASCHER

National Housing Agency

The Judicial Function in Federal Administrative Agencies. By Joseph P. Chamberlain, Notel T. Dowling, and Paul R. Hays. New York: The Commonwealth Fund, 1942. pp. xii, 258. $3.00.

This small volume is the last in a series of studies in administrative law sponsored by the Legal Research Committee of the Commonwealth Fund which includes such fine books as *Legislative Regulation* by Ernest Freund, *The Interstate Commerce Commission* by I. L. Sharfman, and *Administration of Workmen's Compensation* by Walter F. Dodd. Although very different in scope and character from the two last mentioned books, this study is of the same high quality as the earlier volumes in the series.

The authors of this study are the professors of law of Columbia University who have charge of the Legislative Drafting Research Fund. The entire staff of this Fund was utilized for gathering data during a period extending over several years. With admirable restraint, however, the authors have omitted the mass of details they gathered on the procedures of the federal administrative agencies, because this information has become available to students in the last two years through the monographs of the Attorney General's Committee on Administrative Procedure. In lieu of duplicating the work done under the auspices of the latter committee, this study is limited to a summary of the essential facts and an interpretation of their significance. Its purpose is description and appraisal, rather than criticism and reform, although it does include some worthwhile suggestions for improvements. Its value, above all else, lies in the ability of the authors to make clear to laymen the patterns which underlie the complex institutional developments with which this study is concerned.

The judicial function is defined as including all instances of the employment of judicial procedures by administrative agencies and also the review of the actions of such agencies by the courts. This function arises in a great variety of situations: conflicts between private parties, disputes between the government and private citizens, grants of property or other benefits by the government to individuals and corporations, the issuance of discretionary licenses, disciplinary action against violators of legally established standards, and deportations and exclusion cases under immigration laws. Procedures and practices differ with the basic character of the judicial function which is performed. In all situations, however, the administrative agency must proceed in compliance with the fundamental principles which control judicial proceedings in the courts or, if they fail to do so, their actions may be nullified through court review.

More in detail this study deals with the procedures and practices of a considerable number of the major federal administrative agencies: the Federal Communications Commission, the Federal Trade Commission, Interstate Commerce Commission, the Labor Relations Board, the Securities and Exchange Commission, the Department of Agriculture (in some of its activities), the Immigration and Naturalization Service, the Post Office (in relation to fraud orders), and the United States Employees' Compensation Commission. It deals with the procedures in both formal and informal cases, the policies underlying administrative actions, the sanctions employed to give effect to the determinations, and the review exercised by the courts.

Through the mass of factual information which is presented in very condensed form, some general impressions are conveyed clearly. One of these is of variety and complexity. Anything like the same procedure in all cases where administrative agencies perform judicial functions is impossible, because there are so many different types of administrative actions, presenting widely varying situations and serving differing purposes. Another is the great importance of informal settlements, which in all of the agencies studied far outnumber the cases in which formal procedures are resorted to. Still another is the wide variety of sanctions which have been developed, and some of which, like the denial of privileges and even publicity, are for some purposes much more effective than fines and jail sentences.

Above everything else, there appear clearly the underlying concepts in judicial review. The courts have come to identify due

process of law with statutory requirements. They allow wide latitude to administrative agencies but ever insist upon basic fairness, both in the procedure followed and in the conclusions reached. Administrative agencies must observe "the judicial tradition of responsibility, independence, and impartiality." There must always be "an appellate relationship between the administrative agencies and the courts broad enough to enable the latter to see that the former stay within the bounds of law." At every stage of the proceedings, arbitrary and capricious action is barred to insure fair play for everybody directly affected and the public at large. By this time it is settled, beyond all question of reversal, that judicial functions may be performed by administrative agencies, but in the performance of such functions these agencies must observe a fair procedure and arrive at reasonable conclusions.

For the layman who knows little about the subject, this book is not an easy one to read, largely because it is very factual yet extremely condensed. It is decidedly worthwhile, however, for all who want to understand the basic character of the quasi-judicial functions of the American Administrative agencies.

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FHA Homes in Metropolitan Districts. Federal Housing Administration. Washington: United States Government Printing Office, 1942. pp. vi, 238. $0.50.

The record of the activities of the government mortgage insurance agency that has insured over 1,000,000 home mortgages amounting to over $4,500,000,000 from 1934 to June 30, 1942 is in itself one of the best barometers of trends in the national housing market. This volume covering the period from 1934 to December 31, 1940 presents a great mine of mortgage experience data from the files of the Federal Housing Administration. The authors of this report, however, have done much more than present records of the Federal Housing Administration for each of the 140 metropolitan areas of the United States. They have computed the total number of new dwelling units provided from 1930 to 1940 both in these central cities and in their adjoining suburban areas and they have compared the increase in the number of homes with the census data on the growth of population in the same areas for the same decade.

This report also shows for each of the 140 metropolitan districts the distribution of the income of borrowers on FHA loans, the percentage of mortgages originated by each type of lending agency, and the range in the valuation, materials of construction and number of rooms in the properties insured.

This volume was compiled by the Division of Research and Statistics of the Federal Housing Administration. It was prepared by Paul F. Coe under the direction of Mr. William K. Wittausch. They were assisted by Mr. James E. Victory, Mr. Julian J. Joyce and Mr. Herbert Shapiro. This study is a valuable reference work for all persons seeking quantitative material on the trends of housing in central cities and suburban areas in the decade from 1930 to 1940.

HOMER HOYT

Chicago Plan Commission

The Shifting and Incidence of Taxation. By Otto Von Mering. Philadelphia: The Blakiston Company, 1942. pp. xiii, 262. $3.25.

Since taxes now have such an important function in the national economy, one approaches a treatise on the effects of taxation with the hope that it will throw some light on problems of fiscal policy. The work of Professor Von Mering is at least two steps removed from policy making; it is a theoretical treatise providing tools for the analysis of problems and situations. These tools may be used to obtain conclusions, and the latter in turn are merely data to be considered with others in formulating judgments on policy. (*Cf.*, p. 242)

Value theory has been called economic theory par excellence; and the theory of the incidence of taxation has traditionally been an elaboration of value theory, or, for those who prefer the terms, price and indifference theory. The work under review falls under this classification; it is the application of economic theory to taxation. While predominantly concerned with the effects upon price, it is not limited to these but includes as well the general repercussions of taxation upon productivity, consumption, expenditure, incentives and the price level.

Taxes of every kind levied in every conceivable way are given such consideration as they appear to merit, and some conclusions are arrived at which appear so consistent with reason and experience that little confirming data appear necessary.

Such conclusions appear, unfortunately, to be the exception rather than the rule. On the whole, the author has provided categories and methods of analysis and not results—the empty boxes which must be filled by the statistical data derived from experience in order to be of value for applied economics—and that is the chief limitation of this work. Moreover, most of the tools which the author has given us are applicable to a "pure capitalism," not, as he himself says, to the existing world in which the state plays such a dominating role in economic life. But even aside from the fact that it is difficult to predict the effect of any economic event in a controlled economy, the methods appear of limited value because in practice it is difficult if not impossible to obtain the data necessary to use them.

Economists have been divided into tool makers and tool users. The tool users are presumably the applied economists who use the tools provided by the theorists. Unfortunately, however, the tool users frequently do not find these tools adapted to their work when they set out to do it. This is not because they are unfamiliar with the tools but because the tools are not fitted to manipulate the material which is available. What would we think of an airplane factory which had thousands and thousands of tools in the shop but produced practically no planes that could fly; of an engineer who perfected plans for a fighting plane out of materials which never were on sea or land; or of the physicist who designed an engine to use atomic power and said it was the job of the practical engineer and mechanic to apply this power to the problem at hand?

The issues of tax theory are stated in much the same terms as those of price theory. It will be agreed that if we know what the supply and demand, cost and revenue, curves are in a given situation we will be able to predict the price effects of a given tax. Extending this method, it is clear that the supply and demand, cost and revenue schema are formally adequate for prediction of the price effects of any phenomena whatsoever, a rise in the discount rate of a central bank, a panic on the stock exchange, an increase in wages, lower or higher productivity, invention, and so forth ad infinitum; and in the formal sense it is merely a problem of detail to find out how these effect the curves which are a part of the analytical schema. But in effect, to do this is the whole task of realistic economic analysis, about which not only curves are drawn but many books are written.

Now all supply and demand curves, insofar as their reference is to the actual world, must be derived from past behavior which has been and is still in the process of change. For that reason, price forecasting has always been on shaky ground. Nevertheless, practically every formula provided in this book, if it is to be used for practical affairs, requires a price-quantity forecast. This is clearly shown by the author when, in the quest for a general solution of the incidence problem, he advances the following proposition as a common denominator for all processes of tax shifting: "Whether and to what extent taxes may be shifted depends on the degree to which supply and demand may be restricted *with advantage*." (p. 21) This is a good statement of the problem but it is still so general that it applies to every economic act of every kind; it achieves more specific meaning only in terms of the many "empty boxes" the author goes on to provide and only becomes real insofar as data can be obtained to fill these boxes. Many of these data can be provided by simple observation, others require elaborate statistical methods; but both are in the end attempts to predict price-quantity behavior, about which we know so little. So much for the general aspects of this work.

Von Mering is aware of the limitations inherent in his method though he sometimes (p. 137) seems to infer that a result arrived at by deduction has some intrinsic validity for actual experience by virtue of its existence as a deduction, whereas it has the same value as its postulate. All inference requires postulates; but some postulates more closely resemble reality than others.

The author appears to side with those who believe that in considering the incidence of a tax the expenditure effects should not be considered. (p. 134) While it may be merely a matter of definition whether expenditure effects are a part of "incidence," it is still true that one cannot tell what is likely to be the result of a tax unless one knows what is likely to be done with the taxed money. If a gasoline tax is levied on farmers and then refunded, its effect will be quite different than if it is levied and used to build roads. If a sales tax is levied and the proceeds are used to pay off the bonded debt, the incidence on price and demand is likely to be different than if the entire proceeds are used to provide relief for people who formerly were without income. The effects of the expenditure of the proceeds of any given tax, say on sugar, on the price of sugar may be negligible, but they are ignored because they are negligible and not because they do not exist. But when the government begins to collect taxes running to twenty-five billion dollars a year, and to spend them, it is absurd to try to trace the incidence of the tax on prices without regard to the expenditure. For purpose of public policy, moreover, we desire to know the total effect of a tax, not the effect on some one factor alone.

At the present time when we are so much concerned about achieving maximum production, the author's conclusions that a proportional and a progressive income tax both "are likely to endanger economic productivity" (pp. 109 and 100) by adversely affecting economic incentives, are worthy of consideration. Since this is probably true, it follows that those who are advocating the control of inflation by more and more drastic income taxes need pause to consider whether or not some other device may not be necessary in order to achieve this end without interfering with war production. The representatives of democratic states as well as the officials of the totalitarian regimes have grappled with this problem though it cannot be said that they have arrived at a satisfactory solution.

There are many other problems considered with exactness and thoroughness throughout this excellent volume, and students of public finance will be grateful to Professor Von Mering for bringing together in such a relatively brief compass the major issues on the incidence and effects of taxation. As he states, much of the treatment was built upon his earlier work *Steüerüberwälzung* published in Jena in 1928, though it incorporates as well the developments in economic analysis since that date.

WALTER A. MORTON

University of Wisconsin

Soil Exhaustion and the Civil War. By William Chandler Bagley, Jr. Washington: American Council on Public Affairs, 1942. pp. 101. $2.00.

This interesting monograph seeks to establish three principles with regard to soil exhaustion and the Civil War. These are: (1) Soil exhaustion was severe and widespread throughout the southern states before the war. The causes were: the availability of plentiful and cheap new land; the growing almost exclusively of intertilled crops such as tobacco, corn and cotton; and, perhaps most important, dependence on inefficient, unskilled and disinterested slave labor. (2) Soil exhaustion in older localities continually forced the slave owner to utilize new lands on which to employ his slaves and thus maintain their productivity and money value. (3) The influential slaveowners therefore demanded that new states and territories, when organized, be opened to slave labor so that a supply of new lands on which slavery would be profitable would be assured. This demand, expressed under various guises, including the argument that the federal government was violating state's rights in regulating or prohibiting the extension of slavery, led to war. Mere limita-

tion of the area in which slavery was permitted would have been fatal and had to be resisted as strongly as abolition itself. One of the major incentives for such resistance was the high monetary value of the slaves, which amounted to 45% of the money value of all the property in the South—including land, according to Mr. Bagley's estimate.

With regard to the points listed above, it may be stated with confidence that soil exhaustion in the South before the Civil War was very serious and that it undoubtedly influenced the economic and political attitudes of the people. The soil exhaustion which occurred, however, cannot be ascribed entirely to improvident management, combined with or resulting from the unreliable and inefficient labor obtained from slaves, as is implied by Mr. Bagley in his discussion of the extent to which sound practices could have been followed even before the Civil War.

Actually, the physical and technical problems involved in good soil management under a diversified or livestock farming system in the South are still in the process of solution even after years of research and scientific progress. As compared with the North, the temperature and rainfall conditions in the South inevitably lead to a greater depletion of the plant nutrients originally present in the parent materials of soils. Exhaustion of fertility after cropping was therefore, more rapid in the South, especially the Coastal Plain; and it could be corrected only by the use of commercial fertilizers which were not available in quantity and whose use was not understood until after the Civil War. Furthermore, the production of forage crops and livestock was difficult because of the lack of suitable varieties, the prevalence of diseases and other factors. The problems of handling and marketing perishable livestock products would also have acted as a deterrent even if production had been fairly successful.

Technical difficulties, which are still in evidence today, therefore contributed to the soil deterioration observed even on the lands of such thoughtful and careful managers as Washington and Jefferson. While these technical factors are not stressed by Mr. Bagley, they undoubtedly contributed much to the apparently improvident use of land which is attributed to the slave system.

The thesis that soil exhaustion was severe and that it resulted to a large extent from the use of slave labor is well established by Mr. Bagley through numerous quotations from a great number of sources. Whether soil exhaustion and the resulting demand for new land was a prime cause of the war, rather than antagonisms and rivalries arising from other sources, remains a matter of opinion. Nevertheless, this brief but thorough presentation of the importance of soil exhaustion is a valuable contribution and will stimulate the thinking of any one interested in the history of agriculture or of soil deterioration in the United States. It is particularly timely today in that it re-emphasizes the powerful influences exerted by land resources and land use upon the well-being and attitudes of a people, both in war and in peace.

R. J. MUCKENHIRN

University of Wisconsin

Problems of Post-War Reconstruction. Edited by Henry P. Gordon. Washington: American Council on Public Affairs, 1942. pp. 292. $3.25.

When Hitler attacked, England was caught unprepared for war; when Japan attacked, we were caught unprepared for war. When the Axis has been defeated, we must not be caught unprepared for peace. The strategy of peace demands at least as much forethought and preparation as the strategy of war. Success in post-war reconstruction is as vital to our ultimate war aim as is success in the war itself.

Many facets of the problem of post-war reconstruction are exposed in this collection of 13 papers which grew out of a seminar in the graduate School at New York University. The essays vary from dull to brilliant in style, from sterile to clairvoyant in analysis. The editor would have done well to bring four of them in full, to cut five of them in half, and to leave the remaining out completely—which means, of course, that this book is distinctly worth reading, despite the

ballast. To readers suffering from lack of leisure, I recommend the contributions by Falnes, MacDonald, Pinney and Hodges.

In Quest of Peace (Part I) opens with "Fundamental Principles and Problems" by Eagleton: a cogent argument for limiting the sovereignty of national states. He marshalls the evidence of intricate and inevitable interdependences between nations and concludes that "a complete system of international government is called for, and nothing less will serve." The functions of this supranational government is to offer "a substitute for war in the settlement of disputes, in the provision of justice, in the maintenance of rights." (p. 18) But means for their application and solution are not offered.

"After the Deluge," by Howard Becker, contributes little to *The Quest of Peace.* Through misplaced emphasis the author concludes that the answer to what comes after the deluge is the continuation of the long-standing trends toward: (1) the rapid decline of the nordic race, (2) moral disintegration, prostitution and politization of life, and (3) nationalism, autarchy and state socialism. He produces with elegant magic a surprisingly sound non-sequitur to these trends: ". . . it is entirely possible to have a greatly increased degree of political and economic control without relinquishing the essence of the democratic way of life." (p. 38)

"*Problems of the Old World,*" (Part II) begins with an able discourse by Kenneth Deacon on the "Regional Divisions of Industry and Agriculture" in Europe. He contrasts Hitler's power-drunken scheme of a "New Order" with Francis Delaisi's National Plan for a reorganization of European economy ("Les Deux Europes") which rests upon the development of complimentary relationships between agrarian "Zwischen-Europa" and industrial western Europe. Dr. Deacon wisely cautions that such complementariness should not be aimed at continental autarchy, but should be integrated into the framework of world-wide international trade.

Oscar Falnes, in "The Future of the Small State," assigns to the small nations in Europe a most constructive role. He develops the thesis that it is the small nations rather than the great powers that are bound to foster those types of international arrangements which are most likely to produce a just and durable peace. There are three major things necessary for a peaceful order: (1) The "depolitization of nationalism" by making a clear-cut distinction between two precepts of nationalism inherently incompatible with each other, cultural autonomy and economic-military sovereignty. Since small nations are patently unable to safeguard their cultural autonomy by their own economic and military power, they are whole-heartedly in favor of an effective system of collective military security and economic coordination. (2) The functional distribution of sovereignties over several seats of authority, according to the character of the functions these authorities are charged to administer. Certain functions call for regional or national administration. No individual nation can be asked to surrender specific sovereignty rights until some supranational agency is established to which that nation can entrust these rights. It is not a question of abolishing sovereignty rights but of transferring them to a supra-national authority. This masterly essay is full of valuable insights and offers many promising leads to a peaceful world order.

Hans Aufricht treats the "European Minority Problem" in a scholarly manner; but he emphasizes the legalistic aspects at the expense of the sociological, and the retrospective rather than the prospective.

In "*The Western Hemisphere,*" (Part III) Donald McConnell contrasts the policies of the United States and of Nazi-Germany in "Competition for Latin American Trade." We have dealt with Latin America through a few large corporations, mainly interested in extractive industries producing goods for export and contributing little to local welfare and economic development. Germany has many small concerns and individual businessmen dispersed widely through town and country-side, financing local enterprises and developing merchant trade, and playing politics with shrewdness and ingenuity. The only practical way to overcome Latin American resentment against American business and to effectively compete with Germany is to help Latin American nations in developing their own industries, and in improving social and economic welfare. Such policy would entail

more rather than less trade between the United States and her Southern neighbors and would furnish the basis for genuine and lasting hemispheric cooperation.

The historic aspects of "Pan-Americanism: Its Utopian and Realistic Elements" are portrayed by Erich Hula. Pan-American solidarity rests upon common historical experiences rather than upon political similarity and community of economic interests. The Latin American republic have really been much more concerned about a proper balance of power in Europe than about the sentiments or economic policies of the United States. She has a natural position of economic hegemony in Latin America; if she abuses it, solidarity will falter from within, from the local resentment of being exploited; if she neglects to use it, solidarity will falter from without, from the competitive pressures of Europe and Asia. A challenge to high-caliber statesmanship.

In discussing "Hemisphere Policy as Implemented by Economics," Henry Jordan proceeds within the frame-work of pre-war traditions and ways of trading between nations. He discards the possibility of supranational tariff authorities and argues for regional preference systems of tariffs and for international commodity cartels to dispose of surpluses and to control production. He fails to appraise the outlook for a far-going change in foreign trade relations, away from bi-lateral treaties to international trade commissions, for example, and from manipulating "surpluses" and allotting production quotas to implementing consumption goals and rationalizing the distribution of food, raw materials, and capital equipment between nations.

In "*Government and Business,*" (Part IV) Lois MacDonald picks up this problem of reorganizing foreign trade relations in an excellent analysis of the role of "Economics and Politics in Reconstruction." She sees a centralized organization of economic activities in international relations as the only lasting solution, and immediately poses a fundamental question all too easily overlooked: Will an individual national state be able (even if it were willing) to control its own corporate firms in their dealings with corporations in other nations? "Is it possible to place under control private interests which have grown into units so powerful as to be laws unto themselves?" (p .192) Harvey Pinney elaborates on this theme later in the book.

George Hirschland attempts to solve "The Gold Problem and the World Scene" by resurrecting the gold standard, internationally as well as domestically. He goes even so far as to urge that the popular mind be reimbued with the old myth of the secret powers of gold. It reads like a fairy tale from a weird forlorn country at the bottom of the sea.

"The New Methods of Trade Policy" which Richard Schueller expounds sound almost as old and out-moded. Regional tariff preferences, modifications of the most-favored national clause and back to bi-lateral tariff bargaining is all he can visualize. The state of affairs after the war, in the opinion of the reviewer, will be such that there is no leg left for the gradualists in tariff reforms to stand on; and the only sensible thing to do will be to try out new ways of trading between nations—ways that bear promise of preventing the past misallocation of resources behind tariff walls and the cumulative strain caused by the economic warfare of tariff and exchange-rate strategy.

Perhaps the most provocative and valuable contribution in this series of essays is Harvey Pinney's paper on "Property and the International Order." It opens with the thesis "that in our society property is the dominant institution in determining political behavior; that the institution of property is malleable; that it affords a margin of social control subject to conscious forethought and planning; that the future of the international order is dependent upon the internal structure of property relations." (p. 255) This thesis is brilliantly developed and sketched in various ramifications with competent craftsmanship. In essence, the conclusion is that it will be necessary to move domestically in the direction of (1) wide diffusion of private "use-property" (such as houses, farm land, etc.,) among the population, (2) social control over corporate property through government regulation or cooperative organization, and (3) the development of a social and economic environment emphasizing cooperation rather than competition, public welfare rather than competition, public welfare rather than self-interest. (A

well selected list of references is appended in a biographical note.)

"*The Paradox of Power Politics*," (Part IV) is a discourse by Charles Hodges on "War as a Peace Dynamic." It is hard hitting and vigorous in style, extremely pessimistic in outlook. War is an institution in its own right and not merely "the offshoot of nationalism compounded with economic imperialism." It creates its own neurosis of intolerance which survives and lingers on after the war. The paradox lies in the incompatibility of the modern sovereign state and the community of nations. The state rests upon force, not law, in its relations to other states. Hence, national states in their attempts to bring order into the community, are driven, willy-nilly, to the war-game of balance-of-power politics which sooner or later inevitably leads to shooting-wars, wars to kill and annihilate. Old men with legal minds, high priests of the civilization of business men, cannot find new ways, cannot see the "incarnate evil—the subterranean maladjustment of the world of states itself." (p. 292)

So the book closes with a sombre note of foreboding. The reviewer is reminded of another paradox which Sir Norman Angell has exposed so forcefully and the implications of which are less fatalistic: It was the hatred of war, widespread and deepseated in the minds of people during the twenties and thirties, that brought upon us this second world war in one generation. It was because the common people in each nation hated war and wanted to have nothing further to do with it that collective military defense commitments between the states did not come to pass. Out of hatred of war each nation refused to commit itself to go to war in defense of a neighboring nation, which made it possible for aggressor states to tackle one neighbor at a time. Perhaps this lesson will have been learned by the end of this war: to safeguard peace, all nations must commit themselves to go to war in the defense of *any* one nation attacked by an aggressor. If we could arrange to work out such a collective security system, and to parallel it with an international trade agency with supra-national authority to safeguard for all nations equal opportunities in trading raw materials and finished goods—maybe the incarnate evil of power politics could be banned after all, at least for a few generations.

RAINER SCHICKELE

Iowa State College

Flood-Plain Zoning. By Ralph B. Wertheimer. Sacramento, California: California State Planning Board, 1942. pp.43.

This is a highly informative and valuable discussion of several aspects of the problems involved in flood plain zoning. The author sets forth clearly and in much detail the physical factors involved in the problem in Los Angeles County. He then discusses the legality of flood plain zoning, enabling legislation and its relation to other measures to prevent flood damage.

While the study was made for the California State Planning Board and contains a detailed description of the situation in Los Angeles County, it nevertheless is sufficiently broad in scope to be of interest and value to any planning organization, and particularly to those confronted with flood problems.

The work is copiously annotated by reference to and quotations from pertinent court decisions. It is interesting to note that many of the citations are among those early decisions which were so fundamental in establishing the legal background for zoning and comprehensive planning. The application of these opinions to this present problem demonstrates once more the fact that the scope of the police power is limited only by the reasonableness of the regulations as demonstrated by their application to known conditions.

Several methods of protection or regulation are suggested. Much space is devoted to use regulation especially applied to residential occupancy. It is the opinion of this reviewer that all uses of hazardous flood plans which involve structures and human occupancy should be prohibited at least until such time as protection works are constructed which will make the area safe for all uses.

This is not a definite conclusion of the author. If residential use only were prohibited, might not the public be asked to pay damages to owners whose structures are damaged by reason of their being permitted in known hazardous areas? The idea of occupancy at your own risk does not appear to be reasonable. Damage to industrial structures might be enlarged by damages due to loss of business, unemployment, etc.

There is a particularized account of existing conditions in Los Angeles County and a description of the steps taken to alleviate the conditions. They touch upon conditions affecting runoff, flood history, flood damage, soil conditions, areas subject to flood hazard and prevention programs for each of the affected areas and are accompanied by appropriate maps and illustrations. These descriptions illustrate very well the essential factors needed to establish a proper background for regulation.

The section devoted to the legality of flood plain zoning is very informative and contains extensive reference to decided cases. The varied aspects of the legal discussion and the numerous citations may lead the reader to the conclusion that the subject is one of great complexity which must be wholly resolved before action can be taken. However, this difficulty is largely overcome if the section is read in the light of the author's previous remark in reference to urban zoning when he says, "The courts are now agreed that if the regulations are reasonable and substantially related to the health, safety, and general welfare of the community they should be upheld." This is the basis of all successful land use regulation undertaken through the exercise of the police power and is the real test of its efficacy. This further comment is offered—when a new and hitherto untried plan of land use regulation is being attempted it is well to keep in mind the above quotation and also that well-known remark of Dr. Samuel Johnson to the effect that, "Nothing will ever be attempted if all possible objections must first be overcome."

The section devoted to "Enabling Legislation For Flood Plain Zoning" discusses existing legislation which might be used for that purpose. It appears that the present statutory setup would be much improved if it could be made to include the flood plain as a unit without regard to the separate governmental jurisdictions within which it may lie. Voluntary cooperation between governments is reasonable to expect in such a situation but cannot be relied upon.

Part V, "Flood Plain Zoning In Relation to Other Measures For Flood Damage Prevention," deals with the importance and success of engineering structures and other methods of protection. The success of dams and reservoirs is, of course, dependent upon the capacity and their design is based largely on records of past floods and other known data. The author pertinently remarks, "Predictions of flood magnitudes and frequencies are often exceeded, no system of works can guarantee complete protection; probably only non-entry on the flood plain assures protection." The soundness of this remark was well illustrated in Wisconsin only this year. The village of Spring Valley was badly damaged by a flood of unprecedented proportions in the early summer of 1942. Works were suggested to protect the village against floods of such magnitude. The day after the report was completed (September, 1942) the community was devastated by a flood substantially twice as large as any of previous record. Here both magnitude and time were beyond any reasonable prediction.

The author's conclusions are to the effect that the zoning of flood plains may be made much more useful than has been heretofore realized, that it may be much less costly than protection structures, and that it may be used alone or in combination with other measures. These conclusions appear to be reasonable but a repetition of a previous comment is offered: viz.—flood-plain zoning would probably be much more effective if statutory means could be devised whereby the whole of the hazardous area could be brought under a single jurisdiction or a given drainage area could be treated as a unit.

J. M. Albers
Wisconsin State Planning Board

The Impact of Federal Taxes. By Roswell Magill. New York: Columbia University Press, 1943. pp. 214. $3.00.

This book is hardly a "primer on taxation" as the author at one point describes it,

but it does contain much vigorous and generally sensible criticism of federal tax policy, and some good analyses of several specific legal and administrative tax problems. Concerning federal tax policy we need all the advice from well-qualified critics that we can get.

The first chapter presents the author's main criticisms of the federal tax system. A major complaint is that the system involves the double taxation of corporate income, once to the corporation, and once to the stockholder. The feature is not only "perhaps the most serious offense against fairness in the present tax law;" it is a stimulus to debt as contrasted with stock financing. The author recommends the British system of using the corporation tax only to collect at the source from the stockholder.

The author approves of the use of the personal income tax for a leading role in federal finance but feels that the Treasury has overlooked an easy road to more adequate revenue in turning thumbs down on the retail sales tax. He is not favorably impressed with the "spendings tax" which he regards as adding undue complexities. Moreover, because of the exemptions and graduated rates proposed for the spendings tax, it would not absorb purchasing power at the bottom, and this is what is needed to check rising prices. It is thus contended, in effect, that it is necessary to tax subsistence in order to avoid inflation.

Of the excess profits tax it is said that "a simple appealing theory" runs into prohibitive complications; that the determination of invested capital by tracing back investment through mergers, liquidations, acquisitions of property and so forth opens up years of controversy and litigation. The author would accept for capital determination the figures appearing on corporation books before the war (adjusted for current changes). Concerning the alternative base of the tax, he would allow the taxpayer the choice of the two out of three pre-war years' income to compare with present earnings. (Some readers will object here that profits tax alternatives are already too liberal.) Deductibility of the regular corporate income tax is also recommended.

Gift and estate taxes need coordination with state levies and integration with each other. "The transfer tax should be single and cumulative on all donative transfers."

Chapters II and III are mainly a review of recent Supreme Court decisions dealing with federal gift and estate taxes and the application of the income tax to the family. The evolving views of the Court concerning taxability of assigned income (as where the father gives an adult son the coupons from a bond), short term trusts, revocable trusts, and trusts for the grantor's benefit, are considered. Some of these same situations appear also in the estate and gift tax field and are reviewed accordingly. The author lays an interesting stress on the fact that our present laws encourage some procedures in the management of property and discourage others. For example, inter vivos gifts are still encouraged and particular stimulation is given to the process of long-time settlement of property in trust.

Two chapters are devoted to problems of business taxation and one to a summary of developments in federal taxation during the last decade. The final chapter is devoted to federal tax administration and is an especially valuable contribution. The decentralization program of the Bureau of Internal Revenue is praised but the judicial machinery in the tax field is considered cumbersome and involving too much duplication. The Tax Court should be given jurisdiction over claims to the refund of income and estates taxes as well as over the determination of tax deficiencies.

It is surprising that nowhere in this treatment does one find any consideration of the problem of undistributed business income. Surely this issue which was such a bone of contention less than five years ago cannot now be entirely blacked out of the tax problem.

The intelligent layman will not find all parts of this book easy going. The first chapter will suit his tastes best, perhaps, and might be recommended for separate publication. But the intelligent layman can be advised to exert himself further in the interest of a better understanding of a subject of growing importance .The book's value to the expert should be apparent from the above discussion.

HAROLD M. GROVES

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Forward to the Land. By Elmer T. Peterson. Norman: University of Oklahoma Press, 1942. pp.283. $2.75.

The objective of this book is to contrast what the author calls soilways and moneyways. (p. 28, 29). Moneyways is condemned on the grounds that it is (p. xv) "unscientific mercantile farming" and because it lends itself "to politics, regimentation, maladjustment, ..., cash cropping, ..., and general caste of resources." Soilways is recommended on the grounds that it involves "scientific, balanced, diversified techniques of what is called 'live-at-home-farming'," and because it leads to "preservation of 'the American way', ..., intelligent and forehanded land use, and the adoption of an extremely important cushion against depression cycles."

Unfortunately, the author failed to be as precise as one would wish in explaining what he means by the terms soilways and moneyways, or by such expressions as subsistence farming, live-at-home farming, the American way, and "Forward to the Land." At many points soilways is referred to as subsistence farming, or live-at-home farming. For example (pp. 252-253) "If every man were permitted to have a tract of land sufficient for subsistence, we should be getting a long way toward the true goal for which men grope when they thoughtlessly parrot, 'Every man is entitled to a job'." At another point (p. 126) it is stated that complete self-sufficiency is not practical but that farmers should attempt to be as nearly self-sufficient as possible. On the other hand, the terms soilways and subsistence farming also are applied to commercial farms where considerable cash income is necessary to pay current expenses, to make possible the purchase of modern machinery and other equipment, and to permit the accumulation of capital. (pp. 20, 225, 229)

Throughout the book emphasis is placed upon the desirability of placing a larger proportion of the population on the land. However, the author is rather indefinite both as to what this proportion should be and as to how it should be brought about. (pp. 49, 199, 252-253)

The suggestion that urban dwellers should be placed on the land through the rebirth of the homestead law in modified form (p. 179) "in which public lands, tax-delinquent lands, and even swollen estates owned by absentee landlords may be acquired by government and parcelled out to earnest and ambitious homeseekers," is subject to question. A considerable part of the public lands and tax-delinquent lands may be so lacking in productivity that small tracts will not support individual family units at a level of living envisioned by the author.

The author of this book has magnified the importance of agriculture (pp. 50-51) and minimized the importance of other occupations. In some respects he has turned the clock back nearly 200 years to embrace much of the social philosophy of the Physiocrats—a group of French scholars who believed that those engaged in agriculture and other extractive industries were productive while those engaged in trade and commerce and in rendering professional services were non-productive or sterile. The arguments advanced in favor of subsistence farming or live-at-home farming and against specialization which leads to interregional and international trade may be quite persuasive to some at a time when a global war is in progress. However, it appears to this reviewer that the discussion would have been more consistent throughout and the author would have stood on much firmer ground if he had argued for the kind and amount of diversification which will give each individual farmer the highest possible continuing profit. In some areas, such as the western grazing areas, this may mean a high degree of specialization, in other commercial farming areas, such as the corn belt, it may involve considerable diversification, but only in the marginal areas is it likely to approach subsistence farming. A clear distinction also should be made between subsistence or live-at-home farmers and urban workers who live on small acreages nearby the towns or cities in which they are employed. The former, if generalized to include the great bulk of farmers, would lead to a peasant type of agriculture, while the latter may appeal to

some urban workers on the ground that it will enable them to improve their standard of living.

On the other hand, the author is on firm ground when he states that the scarcity program of the 1930's as practiced by industry, labor, and finally by agriculture was fundamentally unsound. Living standards can only be raised by increasing the output of goods and services so that more will be available for general distribution. Differences of opinion arise as to ways and means. The final solution of this vexing problem will not be found in *Forward to the Land.*

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AMONG BOOKS RECEIVED

Land Utilization Plans for Post-war Britain. There has just come to the Editor's desk the *Final Report of the Expert Committee on Compensation and Betterment* (usually called the Uthwatt Report after the name of its chairman). This Committee worked under the direction of the Ministry of Works and Planning in London, England. Some conception of the scope the study is revealed in the stated terms of reference which prefaces the Report. It reads: "Our Committee was appointed . . . with the following terms of reference: 'To make an objective analysis of the subject of the payment of compensation and recovery of betterment in respect of public control of the use of land: To advise, as a matter of urgency, what steps should be taken now or before the end of the war to prevent the work of reconstruction thereafter being prejudiced. In this connection the Committee are asked; to consider (a) possible means of stabilising the value of land required for development or redevelopment, and (b) any extension or modification of powers to enable such such land to be acquired by the public on an equitable basis; to examine the merits and demerits of the methods considered; and to advise what alterations of the existing law would be necessary to enable them to be adopted'." This Report will be reviewed in the May issue of the *Journal.*